

# TC-WR770/WR875

## SERVICE MANUAL

**US Model**  
TC-WR875

**AEP Model**  
**UK Model**  
TC-WR770



This photo is TC-WR875.

Model Name Using Similar Mechanism	TC-WR97ES/WR870
Tape Transport Mechanism Type	TCM-200R5

### SPECIFICATIONS

#### Recording system

4-track 2-channel stereo  
Fast winding time Approx. 90 sec. (with Sony C-60 cassette)

#### Bias

AC bias

#### Signal-to-noise ratio (at peak level)

Dolby NR switch	OFF	B-Type ON	C-Type ON
Cassette			
Type IV (Sony METAL-S)	58 dB	66 dB	73 dB
Type II (Sony UX-S)	57 dB	65 dB	72 dB
Type I (Sony HF-S)	55 dB	63 dB	70 dB

Total harmonic distortion 1.0% (with Sony METAL-S cassettes)

#### Frequency response (DOLBY NR OFF)

Type IV cassette (Sony METAL-S)	30 - 18,000 Hz ( $\pm 3$ dB, IEC) 30 - 14,000 Hz [ $\pm 3$ dB 0VU(-4dB) recording]
Type II cassette (Sony UX-S)	30 - 17,000 Hz ( $\pm 3$ dB, IEC)
Type I cassette (Sony HF-S)	30 - 15,000 Hz ( $\pm 3$ dB, IEC)

#### Wow and flutter

$\pm 0.09\%$  W.P.peak (IEC)  
 $0.06\%$  WRMS (NAB)  
 $\pm 0.16\%$  W.P.peak (DIN)

#### Inputs

Line inputs (phono jacks)	Sensitivity	77.5 mV
	Input impedance	47 k ohms

#### Outputs

Line outputs (phono jacks)	Rated output level	0.32 V at a load impedance of 47 k ohms
	Load impedance	Over 10 k ohms
Headphones (stereo phone jack)	Output level	0 - 1.25 mW at a load impedance of 32 ohms

#### General

##### Power requirements

US model:  
120V AC, 60Hz

AEP, Germany model:  
220-230V AC, 50/60Hz

UK model:  
240V AC, 50/60Hz

##### Power consumption

29 W

##### Dimensions

Approx. 430 x 135 x 355 mm (w/h/d)  
(17 x 5 3/8 x 14 inches)

including projecting parts and controls

Approx. 6.3 kg (13 lbs 15 oz)

##### Weight

##### Supplied accessory

Audio connecting cords (2)

Design and specifications subject to change without notice.

**STEREO CASSETTE DECK**  
**SONY®**



**FEATURES****For higher quality recording/playback**

- The Dolby HX PRO\* system which improves the linearity of the tape's high-range response during recording.
- B and C type Dolby NR\* systems which reduce tape noise.
- Bias calibration to achieve the optimum bias current setting for any tape (Deck B only).

**For your convenience**

- Quick reversing at the end of a tape to minimize interruptions during playback and recording.
- Automatic tape type detection during playback and recording.
- The AMS, Blank Skip and Memory Play functions which provide easy access to a desired selection.
- A relay function for long recording and playback.
- Auto Play function which automatically starts playback after tape rewinding to start.
- Timer-activated playback and recording through the use of an optional timer.
- Synchronized dubbing at normal or high speed.
- Simultaneous Recording function for the simultaneous recording of the same source to cassettes in both decks.

**For easier operation**

- Twin easy-to-read digital linear counters which show the elapsed recording or playing time.

\* Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

"DOLBY", the double-D symbol  and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

**SAFETY CHECK-OUT (US Model)**

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

**LEAKAGE TEST**

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

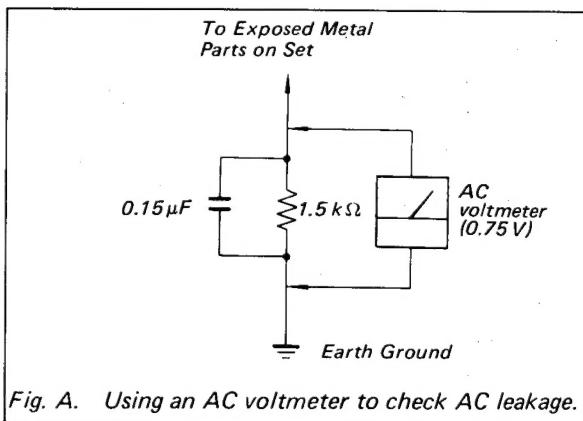


Fig. A. Using an AC voltmeter to check AC leakage.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

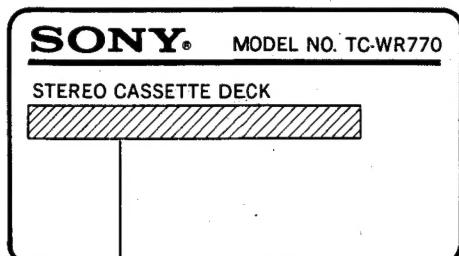
"DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

**SAFETY-RELATED COMPONENT WARNING!!**

**COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

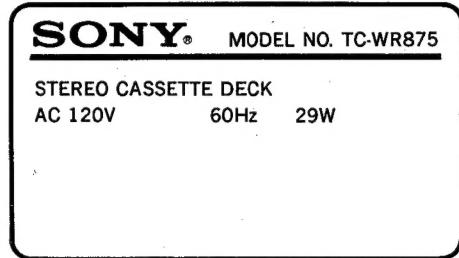
**MODEL IDENTIFICATION****— Specification Label —**

TC-WR770: AEP, UK, Germany model



AEP, Germany model: AC 220V—230V ~ 50/60Hz  
 UK model : AC 240V ~ 50/60Hz

TC-WR875: US model

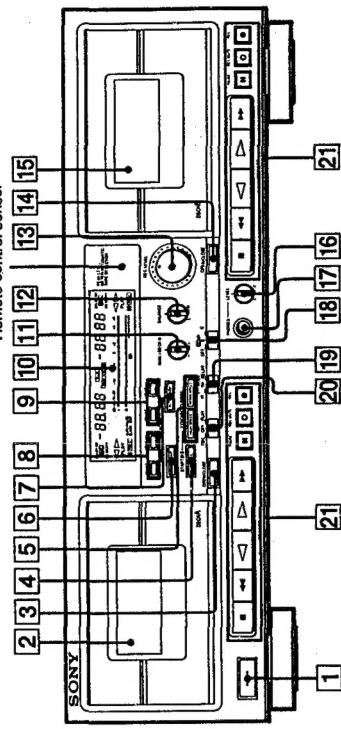
**TABLE OF CONTENTS**

<u>Section</u>	<u>Title</u>	<u>Page</u>
<b>1. GENERAL</b>	• Identification of Front Panel Parts .....	4
<b>2. DISASSEMBLY</b>		
2-1. Cassette Lid Assy .....	5	
2-2. Front Panel Assy.....	5	
2-3. Mechanism Desk Block .....	5	
2-4. Cassette Holder .....	6	
2-5. Ornamental Plate.....	6	
2-6. Pinch Lever, Head .....	7	
2-7. Capstan Motor, Flywheel .....	7	
2-8. Bracket (Motor R1) Assy .....	8	
2-9. Reel Motor Board .....	8	
<b>3. MECHANICAL ADJUSTMENTS</b> .....	9	
<b>4. ELECTRICAL ADJUSTMENTS</b> .....	9	
<b>5. DIAGRAMS</b>		
5-1. Block Diagram .....	13	
5-2. Circuit Boards .....	16	
5-3. Semiconductor Lead Layouts.....	16	
5-4. Printed Wiring Boards —Display/Deck/SW Section— .....	17	
5-5. Schematic Diagram —System Control/Display/Deck/SW Section— .....	19	
5-6. Schematic Diagram —Audio/Power Section— .....	23	
5-7. Printed Wiring Boards —Audio/System Control/Power Section— .....	27	
<b>6. EXPLODED VIEWS</b>		
6-1. Chassis Section .....	30	
6-2. Front Panel Section .....	31	
6-3. Mechanism Deck Section 1 .....	32	
6-4. Mechanism Deck Section 2 .....	33	
<b>7. ELECTRICAL PARTS LIST</b> .....	34	

## **SECTION 1 GENERAL**

This section is extracted from  
instruction manual.

- TC-WR875



*For details, refer to the page number indicated in ●.*

- For details, refer to the page number indicated in .

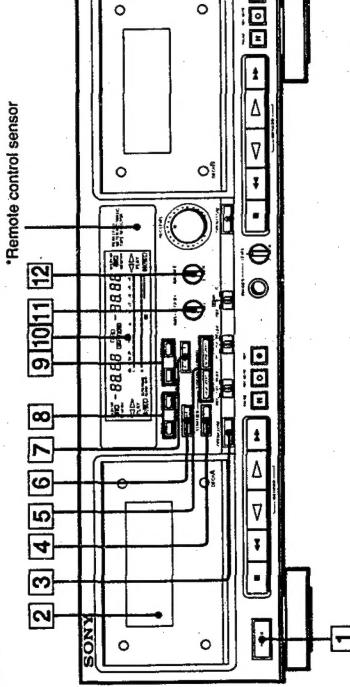
1 POWER switch  
2 Deck A  
3 ▲ OPEN/CLOSE button (deck A)  
4 A+B REC (simultaneous recording) button ⑯  
5 SYNCHRO DUBBING buttons ⑯  
HIGH SPEED button  
NORM (normal) SPEED button  
6 BLANK SKIP button ⑯  
7 AUTO PAUSE button ⑯  
8 COUNTER buttons (deck A) ⑯  
RESET button  
MEMORY button  
9 COUNTER buttons (deck B) ⑯  
RESET button  
MEMORY button  
10 REC (recording) LEVEL control ⑯  
11 ▲ OPEN/CLOSE button (deck B)  
12 Deck B  
13 Headphones LEVEL control ⑯  
14 HEADPHONES (headphones) Jack (stereo phone jack) ⑯  
15 PHONES (headphones) Jack (stereo phone jack) ⑯  
16 NR (Dolby noise reduction) switch ⑯  
17 PHONES (headphones) Jack (stereo phone jack) ⑯  
18 DIR (direction) MODE switch ⑯ ⑰ ⑱ ⑲ ⑳  
19 DIR (direction) MODE switch ⑯ ⑰ ⑱ ⑲ ⑳ ⑯ ⑯  
20 TIMER switch ⑯  
21 Tape operation buttons  
■ (stop) button  
▲ (leftward fast winding) (AMS\*\*) button  
▼ (reverse play) button  
▶ (forward play) button  
► (rightward fast winding) (AMS\*\*) button  
II PAUSE button  
O REC MUTE (record muting) button ⑯  
● REC (recording) button  
\* Remote control sensor  
You can remotely control this cassette deck with:  
— A remote commander that came with a Sony amplifier or receiver if it has the ■ mark and cassette deck control capability.  
— Any optional Sony remote commander with the ■ mark and cassette deck control capability.  
\*\* AMS is an abbreviation for Automatic Music Sensor.  
\*\*\* AM is an abbreviation for Automatic Music Sensor.

卷之三

**remote control sensor**  
You can remotely control this cassette deck with:  
— A remote commander that came with a Sony amplifier  
or receiver if it has the  mark and cassette deck control capability.  
— Any optional Sony remote commander with the  mark and cassette deck control capability.

## **Identification of Front Panel Parts**

- TC-WR770



This diagram illustrates the front panel of a Sony CFD-1 car stereo system. The left side features a digital display showing '00:00' and '88.88', with buttons for 'BAND', 'TUNING', and 'STATION'. Below the display are buttons for 'Preset 1-6', 'Preset 7-12', and 'Preset 13-18'. To the right of the display is a small speaker icon. The center of the panel has a large volume control knob with a 'VOL' label and a smaller balance control below it. Above the volume control are buttons for 'BASS', 'MID', and 'TREBLE'. The right side of the panel includes a cassette slot labeled 'CASSETTE' and a 'TAPE' indicator light. A 'SONY' logo is located at the bottom left. On the far right, there are two sets of four buttons each, labeled 21 through 28, which likely correspond to the preset stations. A 'SUBWOOFER' switch is also present on the right side.

For details, refer to the page number indicated in 

- [1] POWER switch  
 [2] Deck A  
 [3] OPEN/CLOSE button (deck A)  
 [4] A+B REC (simultaneous recording) button ①  
 [5] SYNCHRO DUBBING buttons ③  
 HIGH SPEED button  
 NORM (normal) SPEED button  
 BLANK SKIP button ④  
 AUTO PAUSE button ⑤  
 COUNTER buttons (deck A) ⑥  
 RESET button  
 MEMORY button  
 COUNTER buttons (deck B) ⑨  
 RESET button  
 MEMORY button  
 DISPLAY panel  
 BIAS control (deck B) ⑩  
 BALANCE control ⑪

[13] REC (recording) LEVEL control ⑬ ⑭  
 [14] OPEN/CLOSE button (deck B)  
 [15] Deck B  
 [16] Headphones LEVEL control ⑭  
 [17] PHONES (headphones) jack (stereo phone jack) ⑯  
 [18] DOLBY noise reduction switch ⑮  
 [19] DIR (direction) MODE switch ⑯ ⑰ ⑱ ⑲ ⑳ ⑳ ⑳  
 [20] TIMER switch ⑯ ⑳  
 [21] Tape operation buttons  
 ■ (stop) button  
 ▶ (leftward fast winding) (AMS\*\*) button  
 ▶ (reverseplay) button  
 ▶ (forwardplay) button  
 ▶ (rightward fast winding) (AMS\*\*) button  
 II PAUSE button  
 REC MUTE (record muting) button ⑭  
 ● REC (recording) button

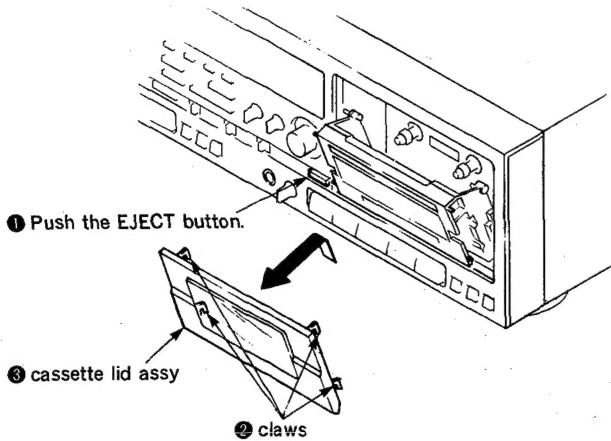
卷之三

**remote control sensor**  
You can remotely control this cassette deck with:  
— A remote commander that came with a Sony amplifier  
or receiver if it has the  mark and cassette deck control capability.  
— Any optional Sony remote commander with the  mark and cassette deck control capability.

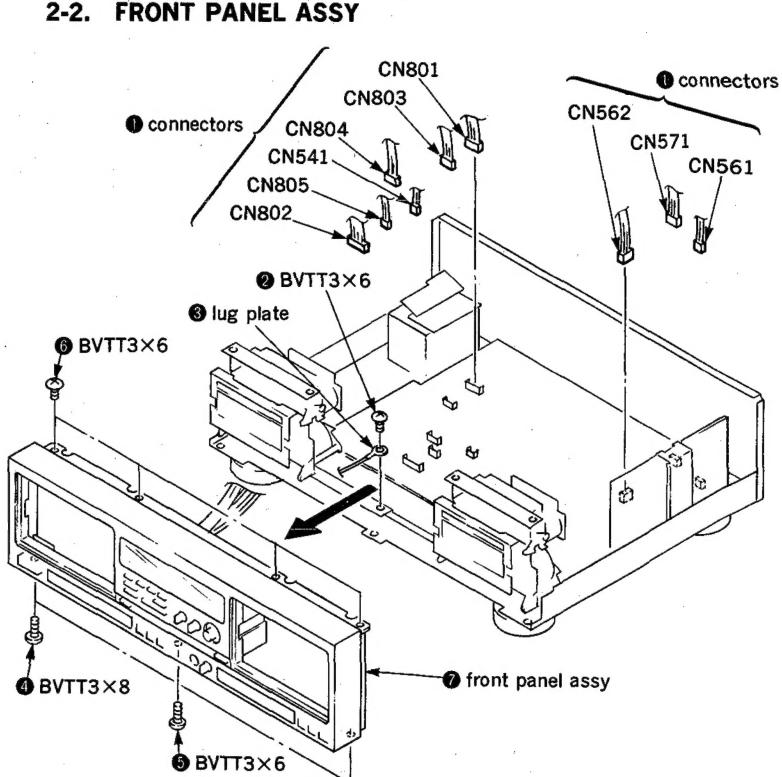
## SECTION 2 DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

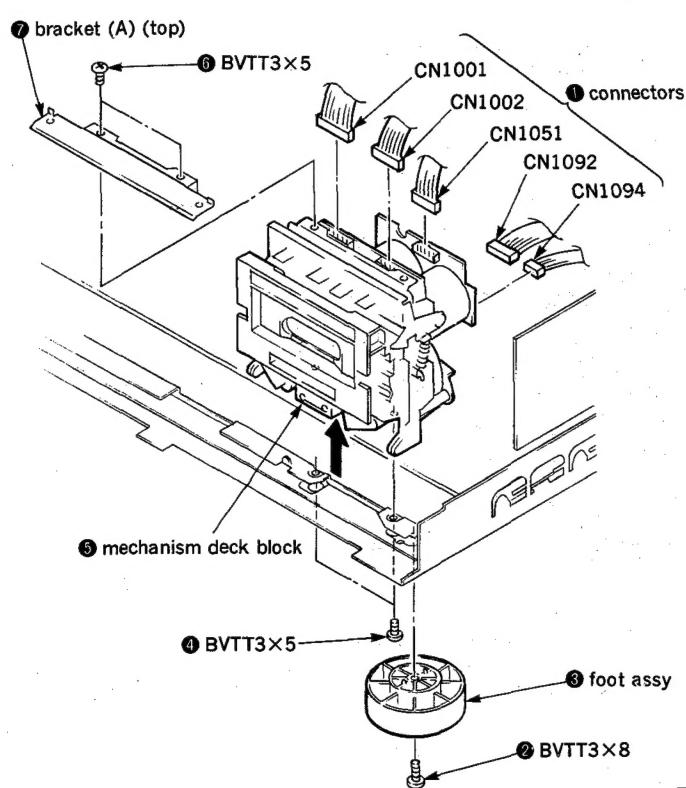
### 2-1. CASSETTE LID ASSY



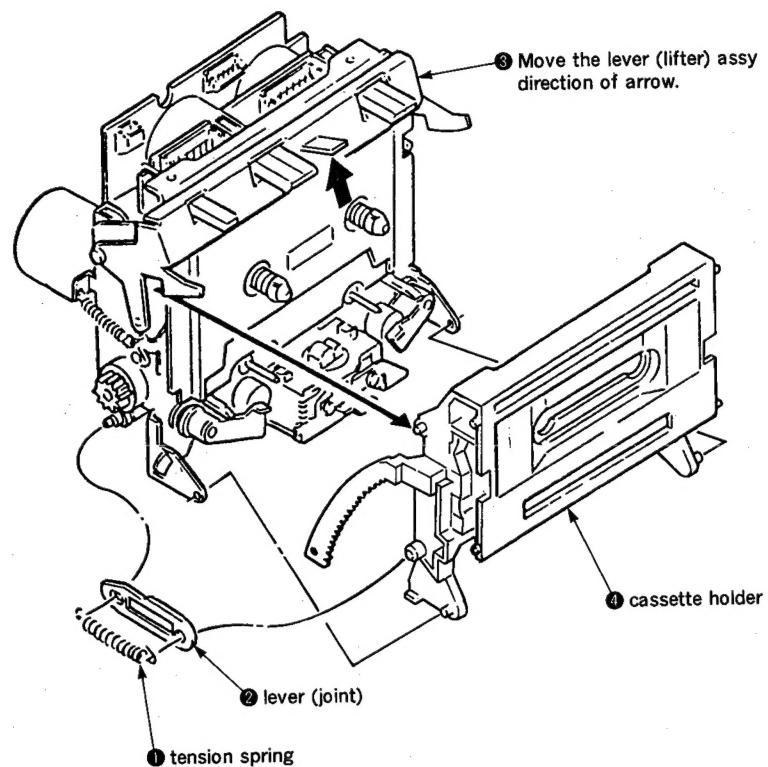
### 2-2. FRONT PANEL ASSY



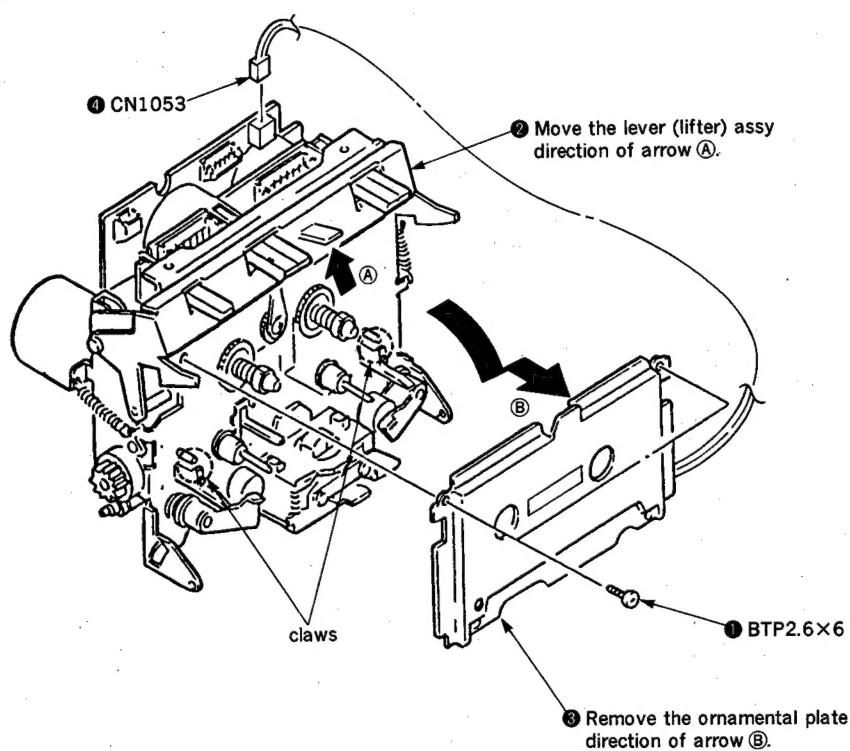
### 2-3. MECHANISM DECK BLOCK



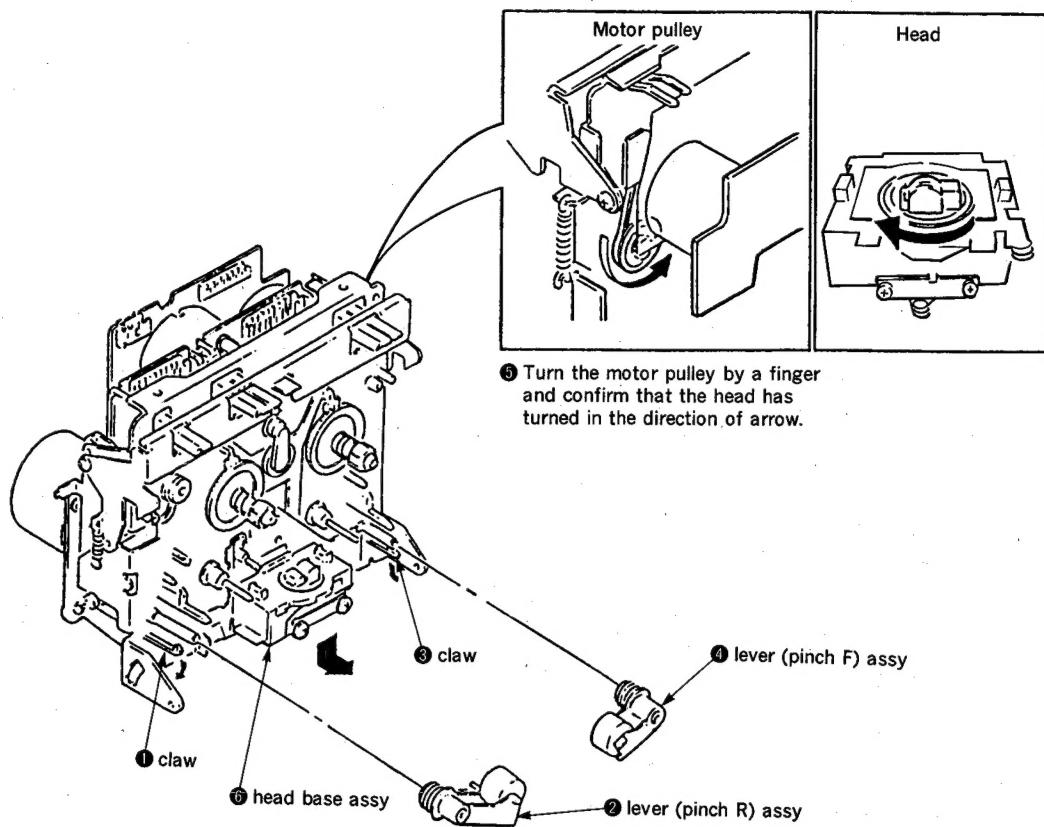
2-4. CASSETTE HOLDER



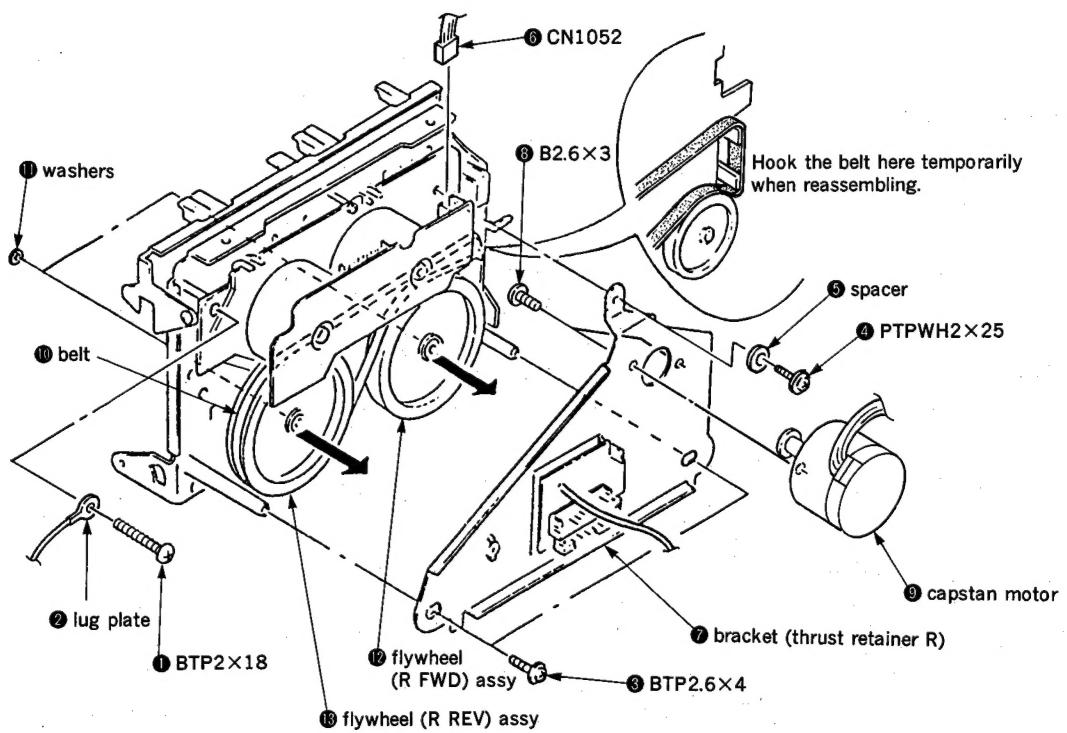
2-5. ORNAMENTAL PLATE



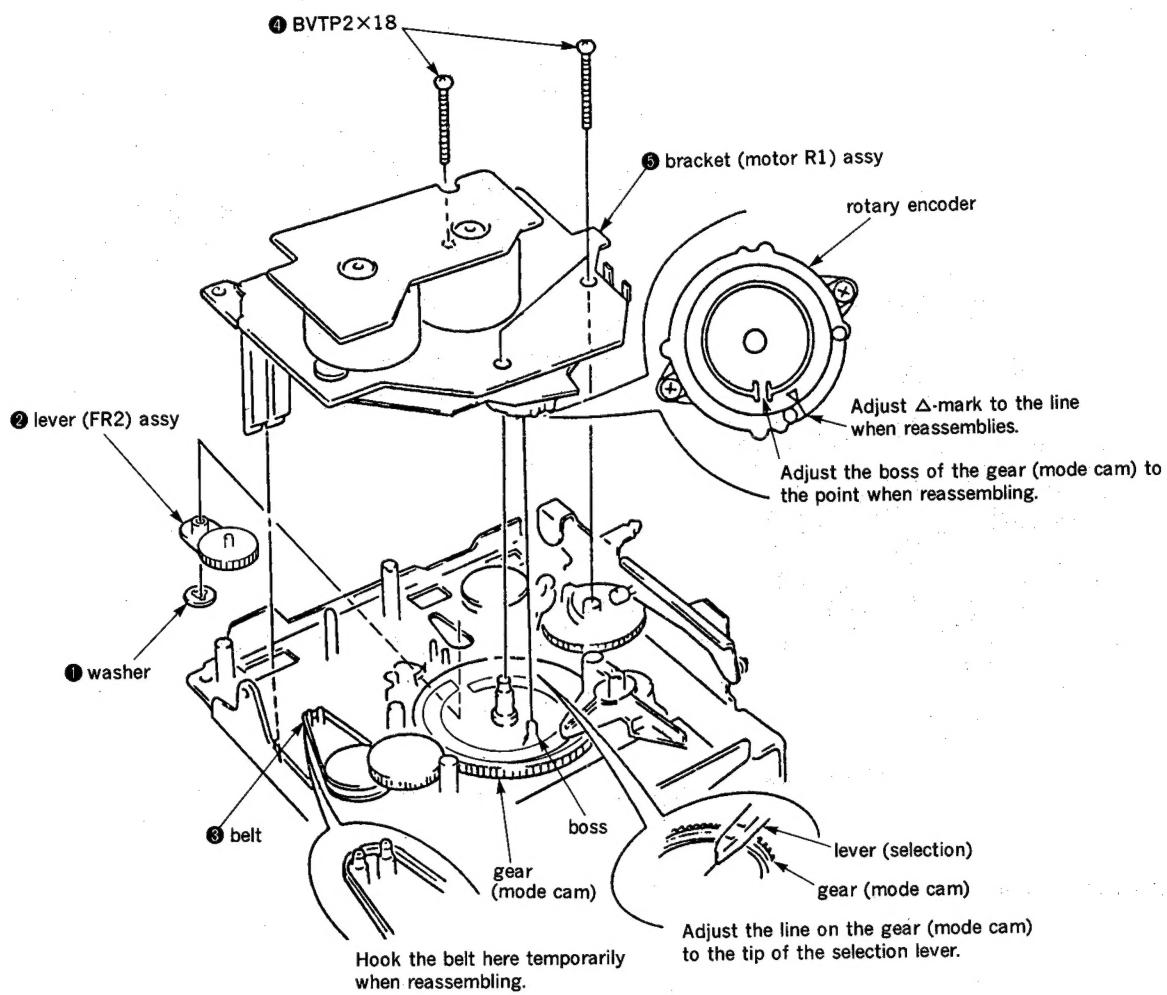
## 2-6. PINCH LEVER, HEAD



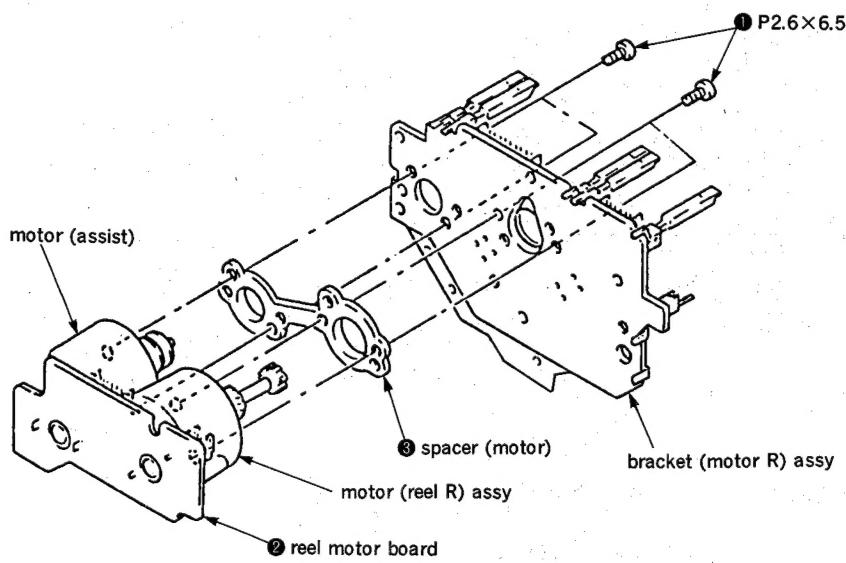
## 2-7. CAPSTAN MOTOR, FLYWHEEL



## 2-8. BRACKET (MOTOR R1) ASSY



## 2-9. REEL MOTOR BOARD



## SECTION 3 MECHANICAL ADJUSTMENTS

### PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
 

record/playback/erase head	pinch roller
capstan	rubber belts
idle	
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed in the rated power supply voltage unless otherwise noted.

### Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	30—60g·cm (0.42—0.83 oz·inch)
FWD back tension	CQ-102C	1—5g·cm (0.014—0.063 oz·inch)
REV	CQ-102RC	30—60g·cm (0.42—0.83 oz·inch)
REV back tension	CQ-102RC	1—5g·cm (0.014—0.063 oz·inch)
FF, REW	CQ-201B	65—90g·cm (0.90—1.25 oz·inch)

## SECTION 4 ELECTRICAL ADJUSTMENTS

**Note :** The adjustment should be performed in the order given in the service manual. As a rule, adjustments about playback should be performed before those about recording. The adjustments should be performed for both L-CH and R-CH.

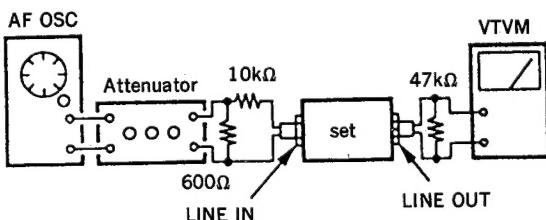
Switches and controls should be set as follows unless otherwise specified.

- (dolby) switch : OFF
- DIR MODE switch : ↗
- TIMER switch : OFF

### Standard Record :

Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

### —Record Mode—



**0 dB = 775mV**

### Standard Input Level

Input terminal	LINE IN
source impedance	10kΩ
input level	0.25V (-10dB)

### Standard Output Level

Output terminal	LINE OUT
load impedance	47kΩ
output level	0.32V (-7.7dB)

### Test tape

Type	Signal	Used for
P-4-A100	10kHz, -10dB	Azimuth Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment
P-4-L300	315Hz, 0dB	PB Level Adjustment

The set will get into TEST MODE by shorting the pins of TP801 (TEST) on main board before turning the power on and TEST MODE functions as follows:

1. High speed playback  
Pushing HIGH SPEED DUBBING button while playback changes to high speed playback and another push of the button returns the set to normal speed playback.
2. Record memory stop  
When starting recording, tape counter is reset to zero and counter memory turned on.

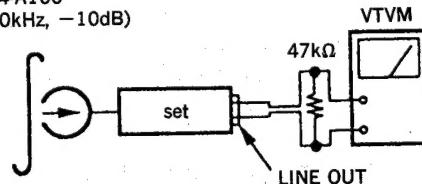
### Record/Playback Head Azimuth Adjustment

**DECK A      DECK B**

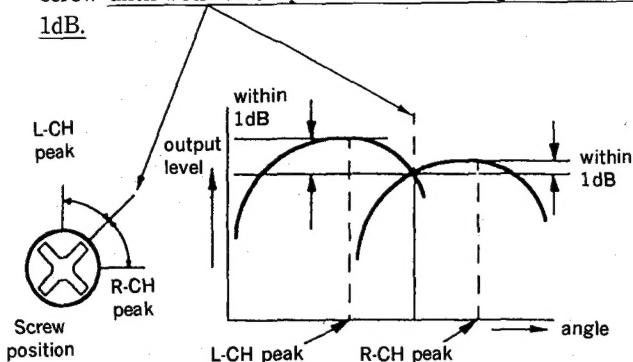
#### Procedure :

1. Mode : FWD playback

Test tape  
P-4-A100  
(10kHz, -10dB)



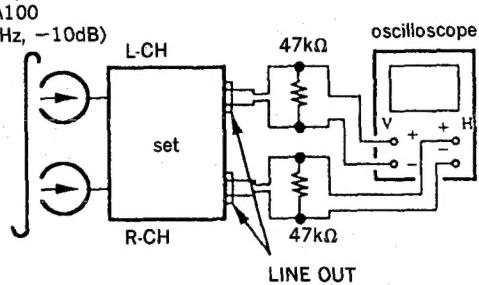
2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



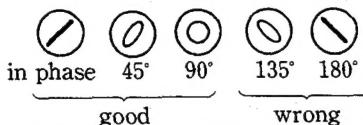
3. Phase Check

Mode : playback

test tape  
P-4-A100  
(10kHz, -10dB)

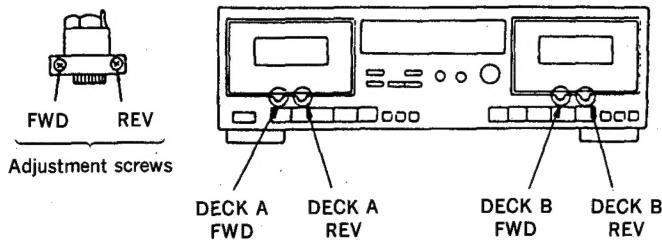


Screen pattern



4. Set in the REV mode and repeat the steps 1-3.  
5. After the adjustment, lock the screws with locking compound.

Adjustment Location : record/playback head



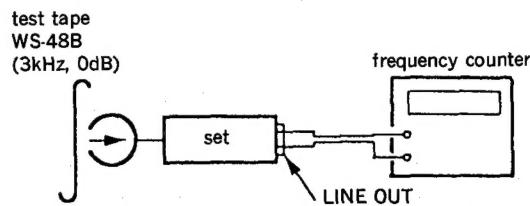
**Tape Speed Adjustment**

**DECK A**

**DECK B**

Procedure :

Mode : playback



(high speed adjustment)

1. Short test pin TP801 (TEST) on main board.
2. Set to FWD playback mode.
3. Push the HIGH SPEED DUBBING button.
4. Adjust RV871 (DECK A) and RV881 (DECK B) on main board so that the frequency counter reading becomes  $6,000 \pm 30\text{Hz}$ .
5. After adjustment, disconnect TP801 shorted in step 1.

(normal speed adjustment)

1. Set to FWD playback mode.
2. Adjust RV872 (DECK A) and RV882 (DECK B) on main board so that the frequency counter reading becomes  $3,000 \pm 15\text{Hz}$ .

Frequency difference between the beginning and the end of the tape should be within 5%.

Frequency difference between deck A and deck B should be within 60Hz (high speed) or 30Hz (normal speed).

Adjustment Location : main board (See page 12.)

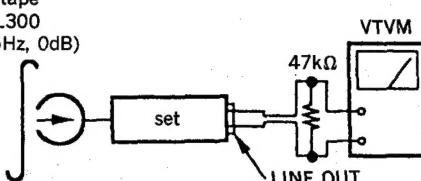
**Playback Level Adjustment**

**DECK A**

**DECK B**

Procedure :

test tape  
P-4-L300  
(315Hz, 0dB)



Adjust RV131 (L-CH) and RV231 (R-CH) for DECK A and RV151 (L-CH) and RV251 (R-CH) for DECK B so that the reading on VTVM meets the adjustment limits next page.

**Adjustment Limits :**LINE OUT level :  $-20 \pm 0.5\text{dB}$  (73.2–83.0mV)

Level difference between channels: less than 0.5dB

Check that the LINE OUT level does not change even if playback and stop operation is repeated several times.

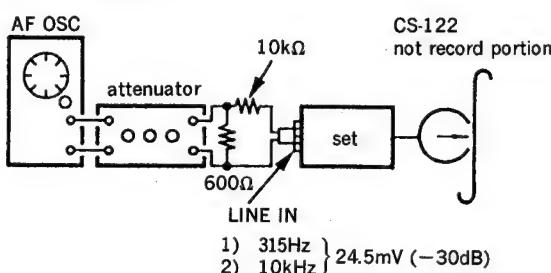
**Adjustment Location :** main board (See page 12.)**Bias Current Adjustment****Procedure :**

- Set the RV121 (L-CH) and RV221 (R-CH) for DECK A and RV141 (L-CH) and RV241 (R-CH) for DECK B to mechanical center and turn the set recording mode.
- Connect digital voltmeter as shown by the following table.
- Adjust the following transformers for the minimum readings on the digital voltmeter.

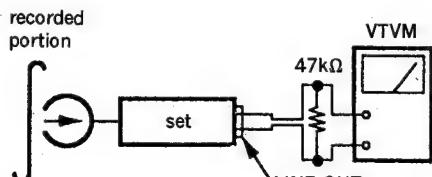
<b>DECK</b>	<b>Mesurement point</b>	<b>Adjustment</b>	<b>Value</b>
<b>A</b>	L ① and ②, TP521	T121	less than 140mV
	R ② and ③, TP521	T221	
<b>B</b>	L ① and ②, TP541	T141	
	R ② and ③, TP541	T241	

**Adjustment Location :** main board (See page 12.)**Record Bias Adjustment****DECK A    DECK B****Setting :**REC LEVEL control: Standard Record (See page 9.)  
Test pin TP801: short**Procedure :**

1. Mode: record



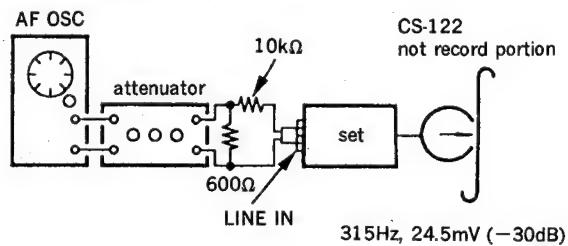
2. Mode: playback



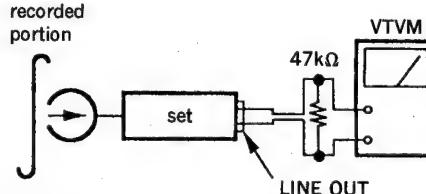
- Playbk the signal recorded in step 1.
- Confirm that the 10kHz playback output is  $0 \pm 0.5\text{dB}$  relative to the 315Hz output. If necessary, adjust the RV121 (L-CH) and RV221 (R-CH) for DECK A and RV141 (L-CH) and RV241 (R-CH) for DECK B, and repeat the steps 1-2.

**Adjustment Location :** main board (See page 12.)**Record Level Adjustment****DECK A****DECK B****Setting :**REC LEVEL control: Standard Record (See page 9.)  
Test pin TP801: short**Procedure :**

1. Mode: record



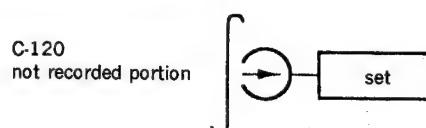
2. Mode: playback



- Playback the signal recorded in step 1.
- Confirm that the signal level is within the adjustment limits below. If necessary, adjust the RV301 (L-CH) and RV401 (R-CH) for DECK A and RV351 (L-CH) and RV451 (R-CH) for DECK B, and repeat the steps 1-2.

**Adjustment Limits :**  $-30 \text{ dB} \pm 0.5\text{dB}$  (23.1–26.0mV)**Adjustment Location :** REC EQ board (See page 12.)**Quick Reverse Sensitivity Adjustment****DECK A    DECK B****Setting :**

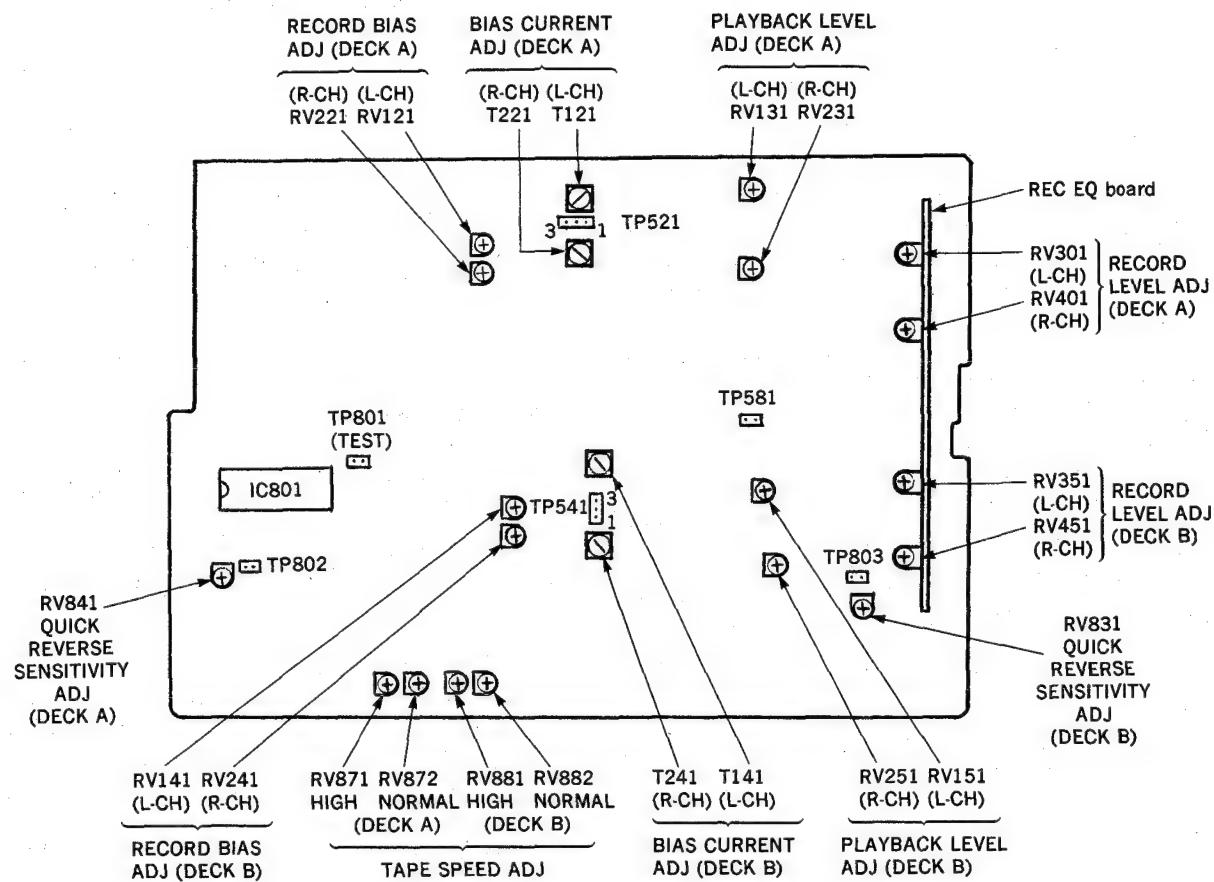
DIR MODE switch :

**Adjustment procedure :**

- Connect the digital voltmeter to test point TP802 (DECK A) /TP803 (DECK B).
- Load C-120 cassette tape and playback the leading portion in FWD mode.
- Adjust the RV841 (DECK A) and RV831 (DECK B) for  $4.5 \pm 0.5\text{V}$  reading on the digital voltmeter.
- Playback C-120 cassette tape in FWD mode again.
- Confirm that the reading on the digital voltmeter is "L" level at the magnetic portion of the tape.
- Confirm that the tape stop around the tape end (boder of the leading and the magnetic portions).

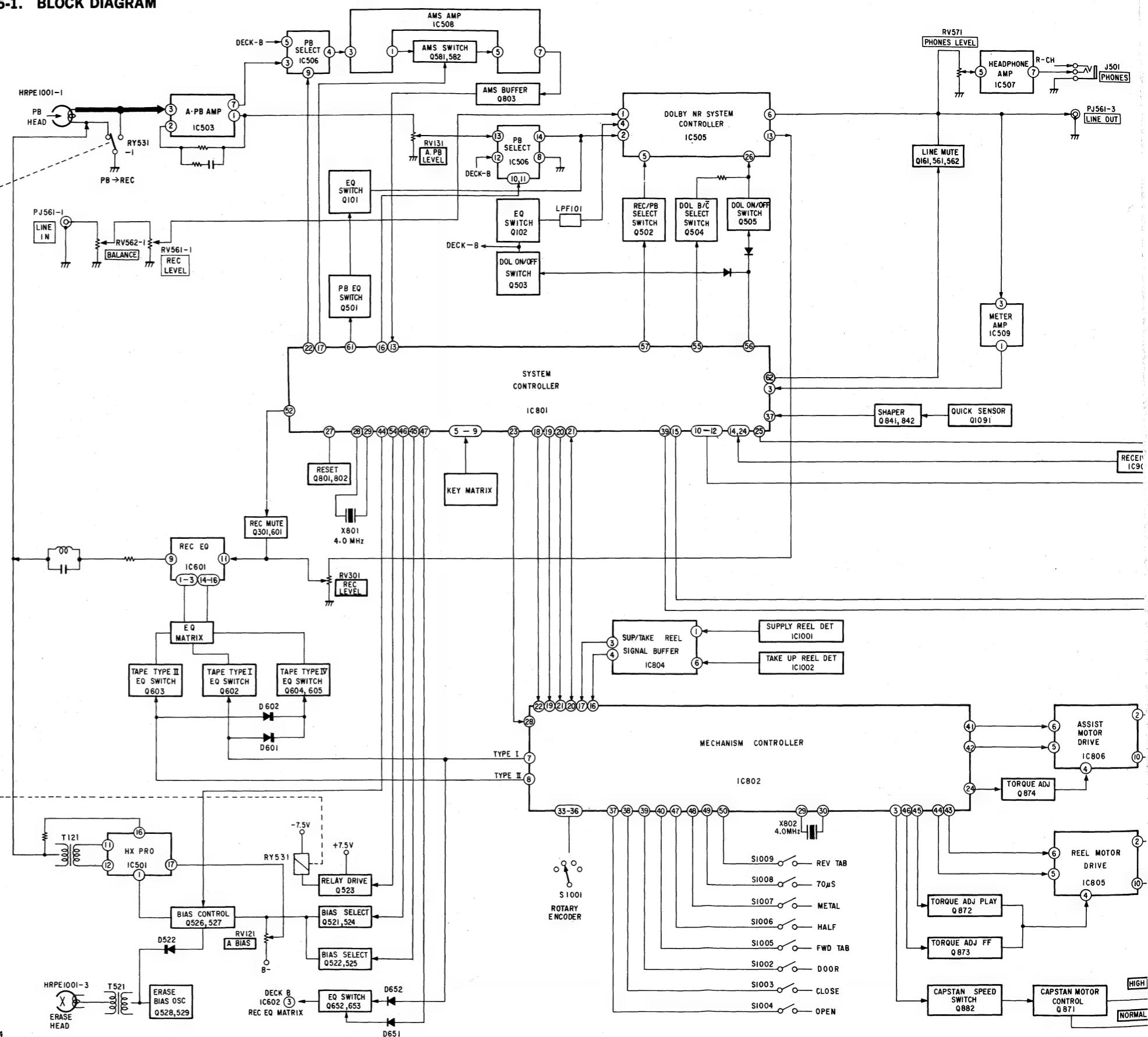
**Adjustment Location :** main board (See page 12.)

**Adjustment Location : main board and REC EQ board**  
**— main board (component side) —**

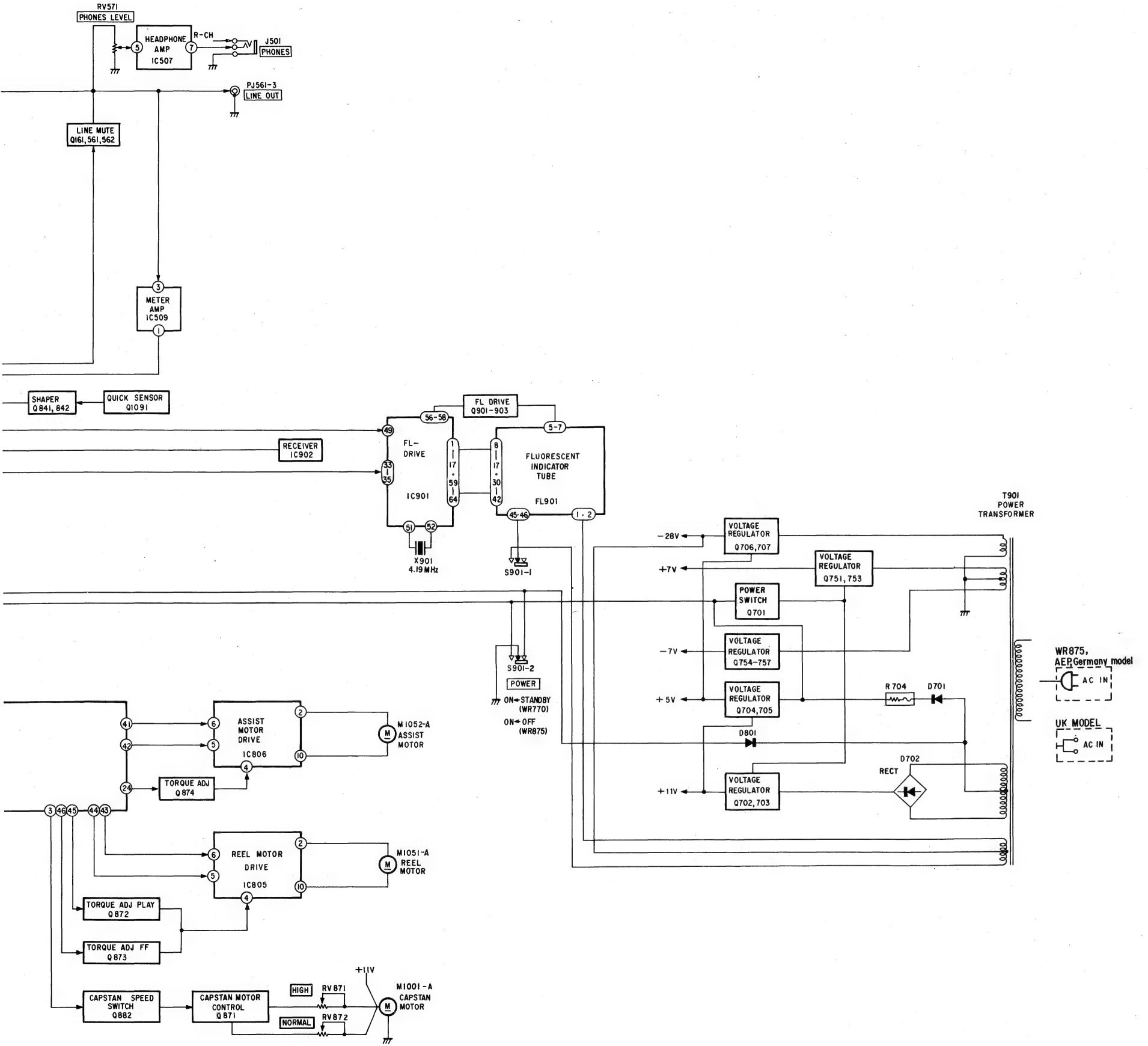


## SECTION 5 DIAGRAMS

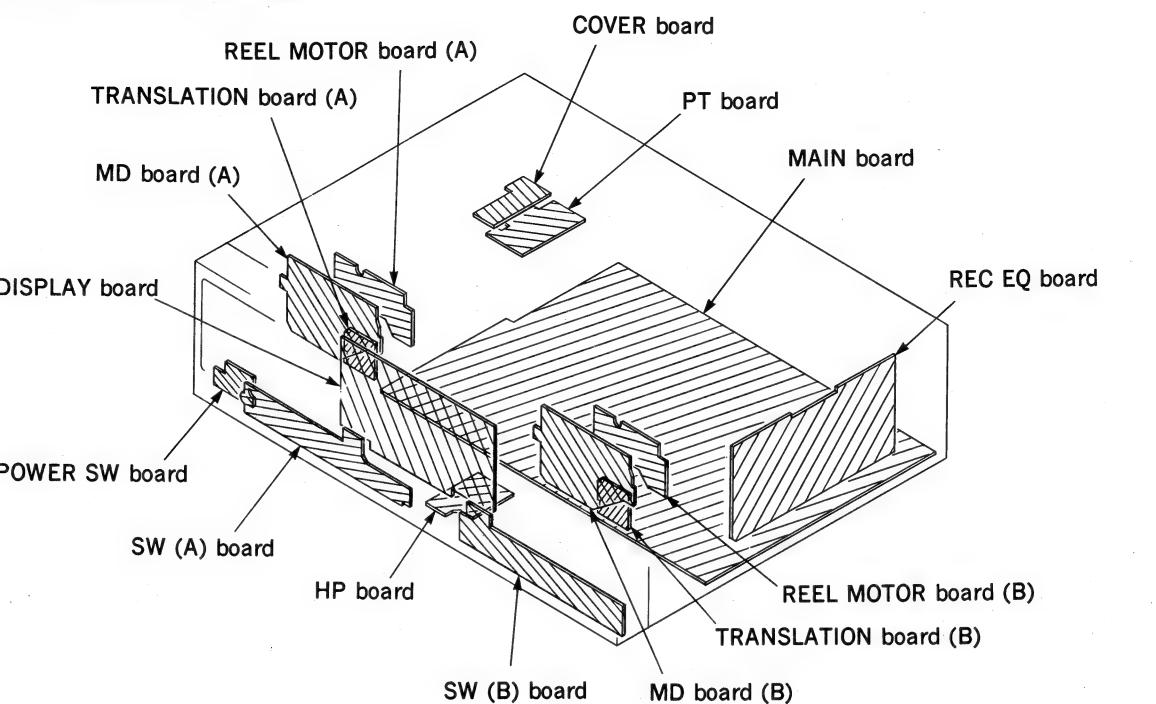
### 5-1. BLOCK DIAGRAM



04

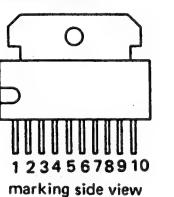
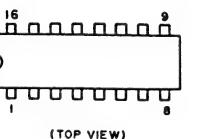


## 5-2. CIRCUIT BOARDS LOCATION

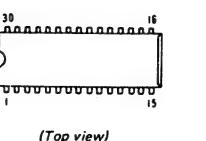
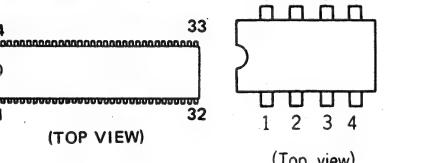


## 5-3. SEMICONDUCTOR LEAD LAYOUTS

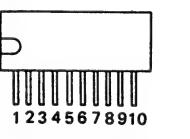
BA6219B

CXA1198AP  
TC4051BPHB  
 $\mu$ PD4053BC

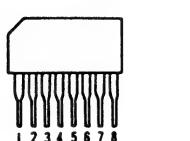
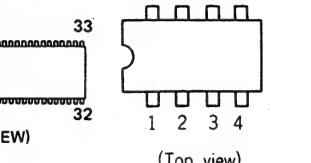
CXA1331S

HD614023SA85  
M50747-B83SP  
M50944-159SP

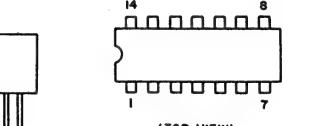
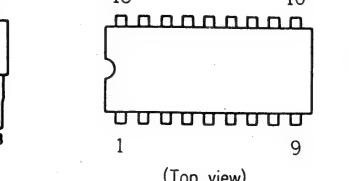
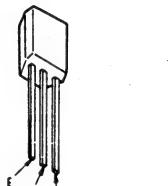
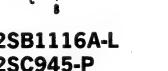
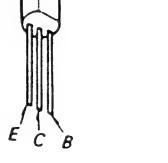
LB1641



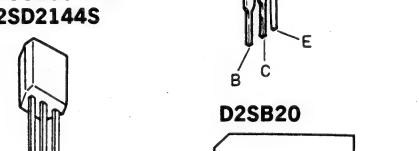
M5218AL

RC4558P  
 $\mu$ PC4570C-1

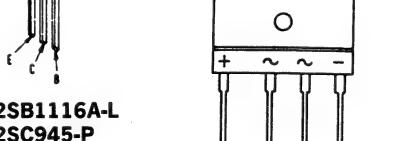
TC4071BP

 $\mu$ PC1297CADTA114ES  
DTA144ES  
DTC114ES  
DTC143TS  
DTC144ES  
2SA1317-STU  
2SC2603-EF  
2SD2144S2SB1370-EF  
2SD1312-K2SB1116A-L  
2SC945-P

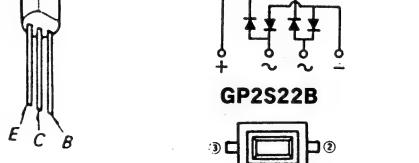
GP2S22B

H2S11C2L  
H2S6A1L  
H2S6B3L  
H2S6C3L  
H2S9A2L  
1SS120

D2SB20



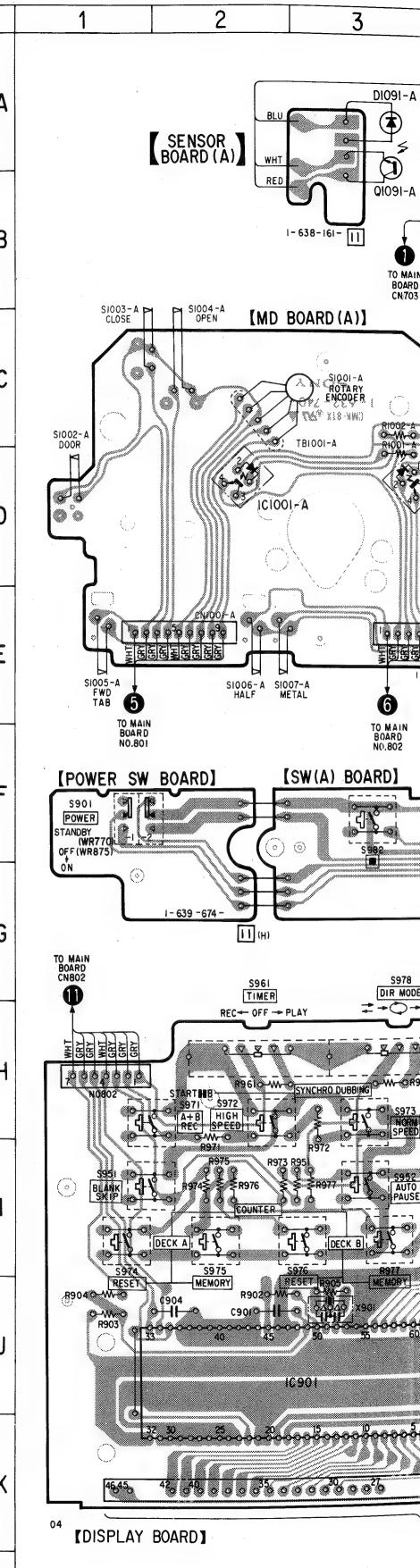
10E2N



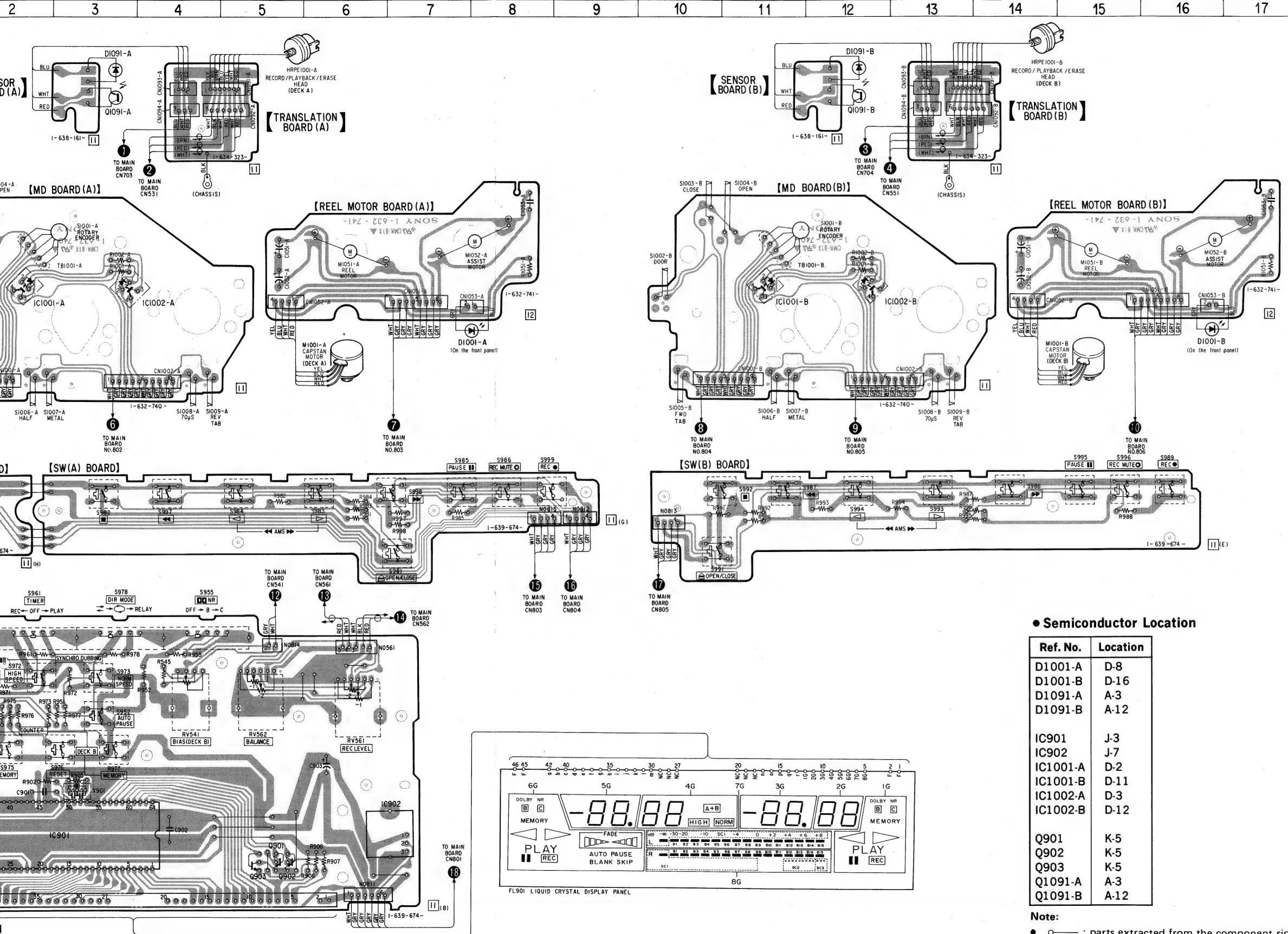
GP2S22B



## 5-4. PRINTED WIRING BOARDS —DISPL



## WIRING BOARDS —DISPLAY/DECK/SW SECTION—



## ● Semiconductor Location

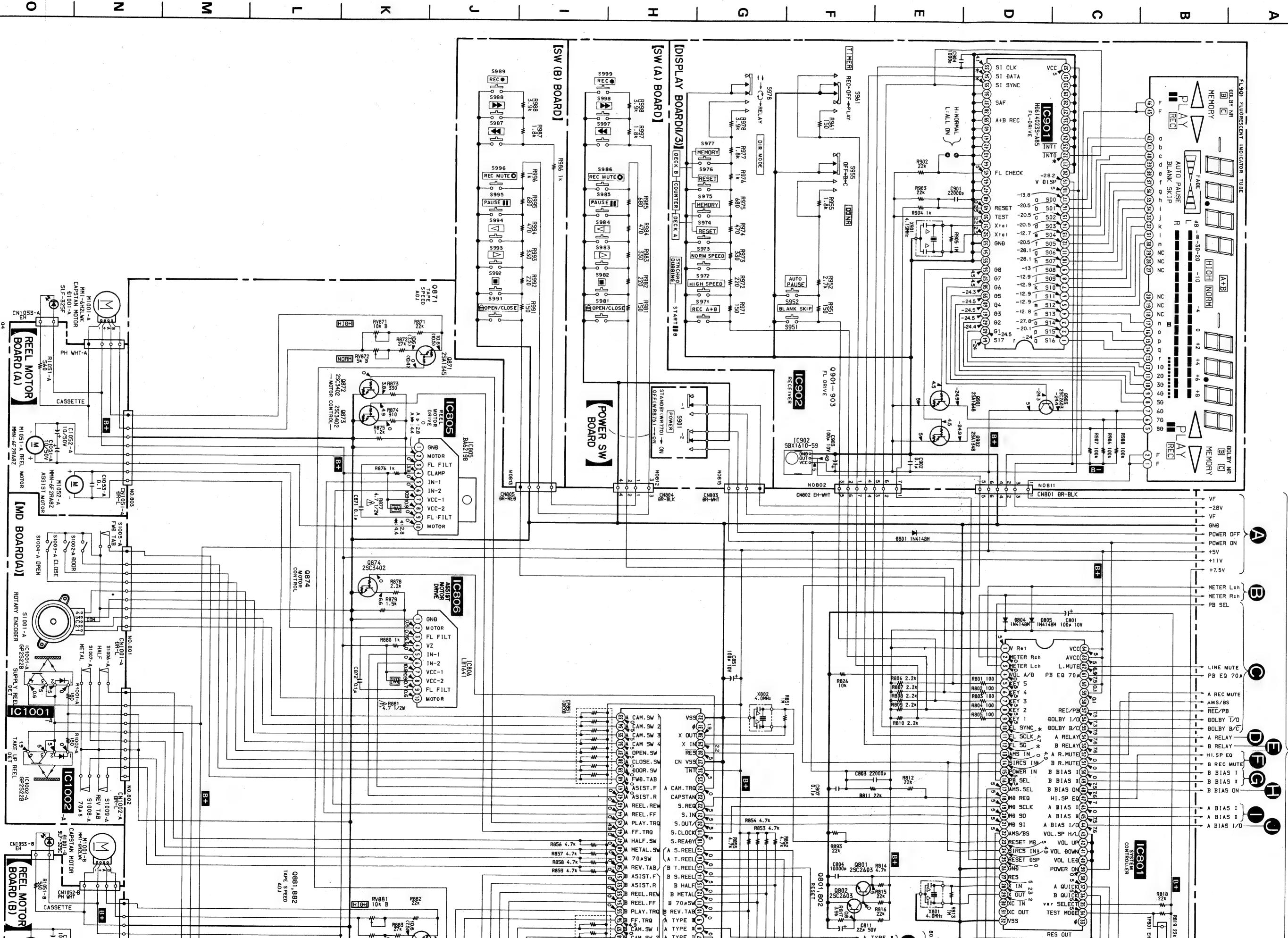
Ref. No.	Location
D1001-A	D-8
D1001-B	D-16
D1091-A	A-3
D1091-B	A-12
IC901	J-3
IC902	J-7
IC1001-A	D-2
IC1001-B	D-11
IC1002-A	D-3
IC1002-B	D-12
Q901	K-5
Q902	K-5
Q903	K-5
Q1091-A	A-3
Q1091-B	A-12

## Note:

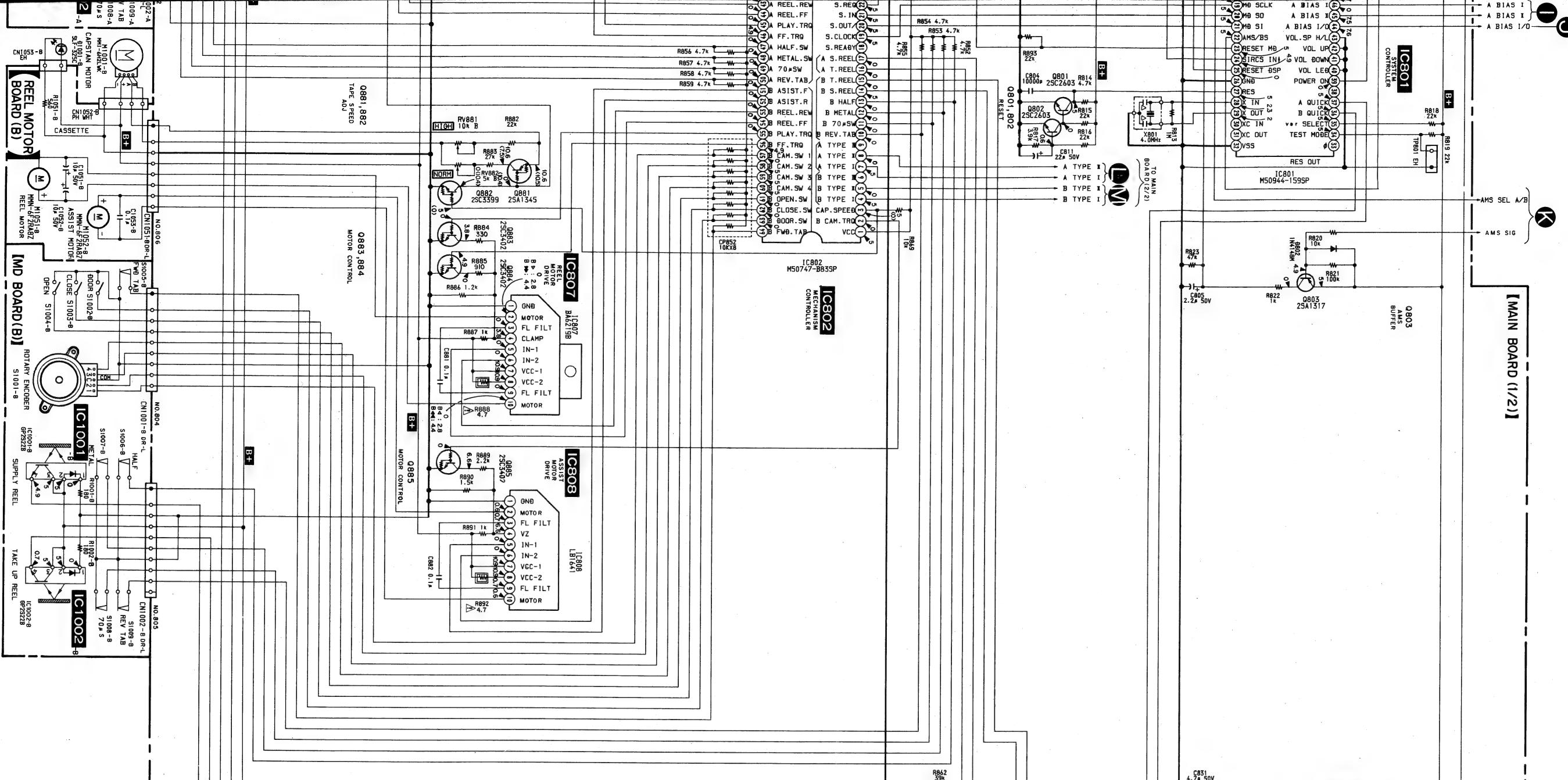
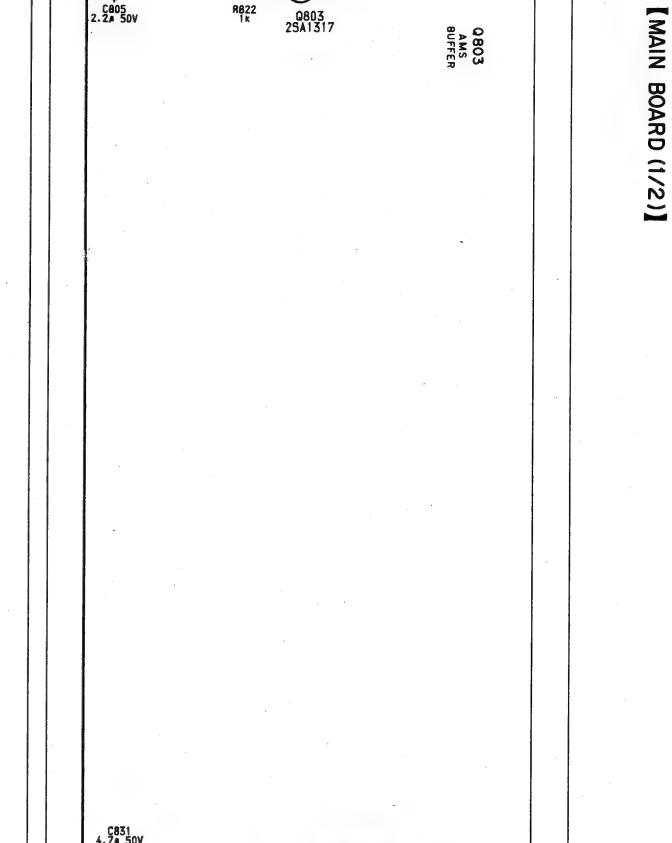
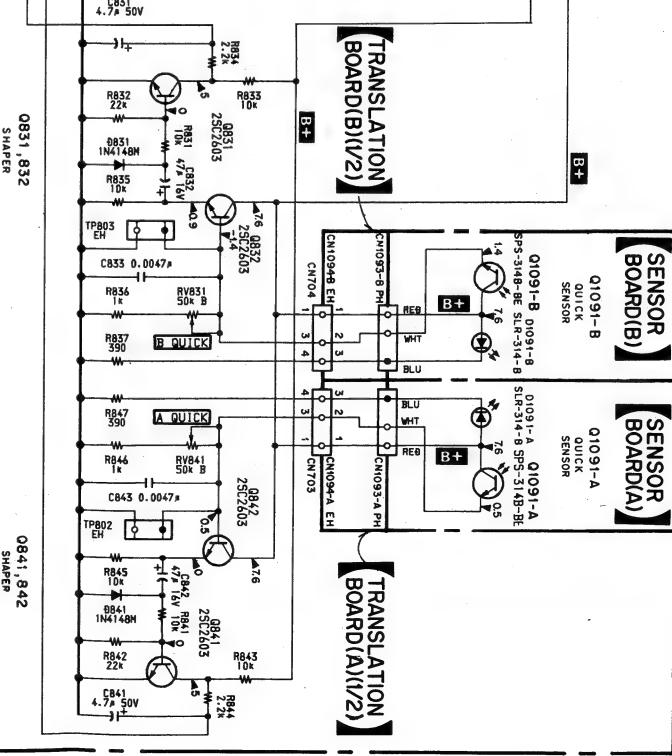
- : parts extracted from the component side.
- : parts extracted from the conductor side.

## **5-5 SCHEMATIC DIAGRAM - SYSTEM CONTROL /DISBL AV/DECK/SW SECTION -**

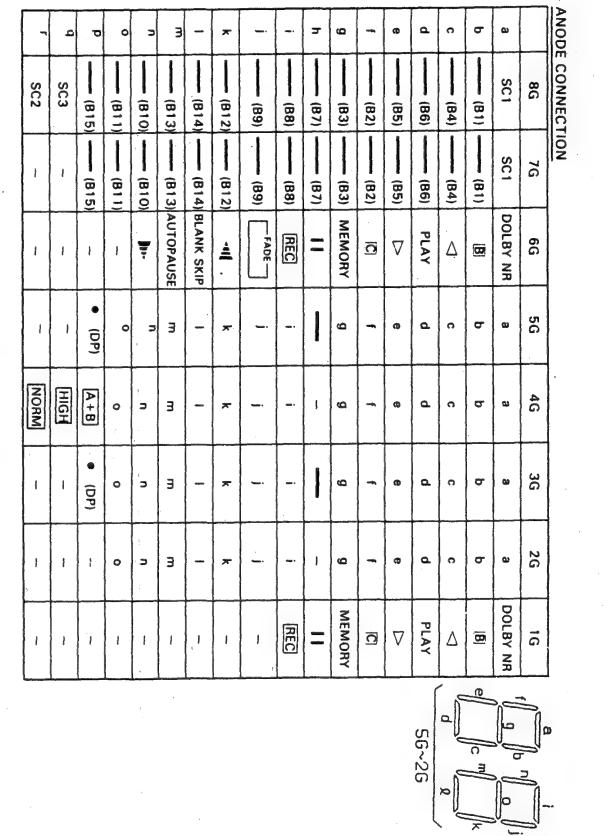
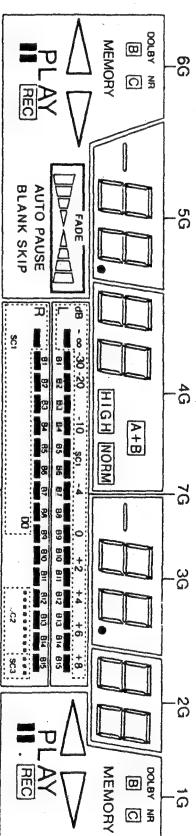
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9



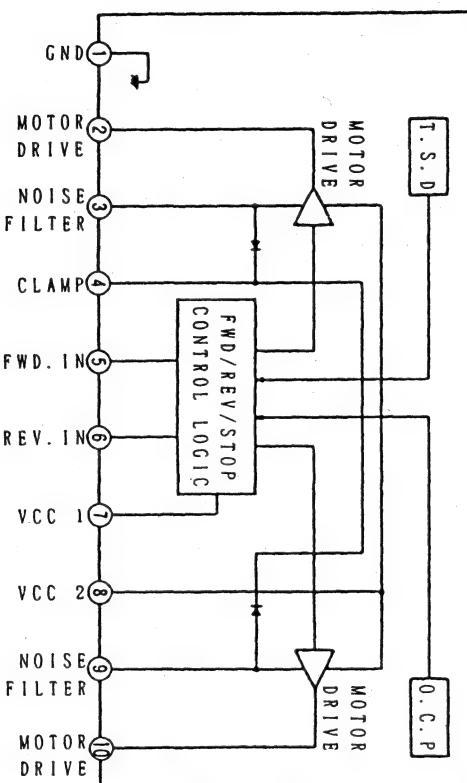
10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20

**[MAIN BOARD (1/2)]****[SENSOR BOARD(B)]****[SENSOR BOARD(A)]**

## • FL901 Internal Connection

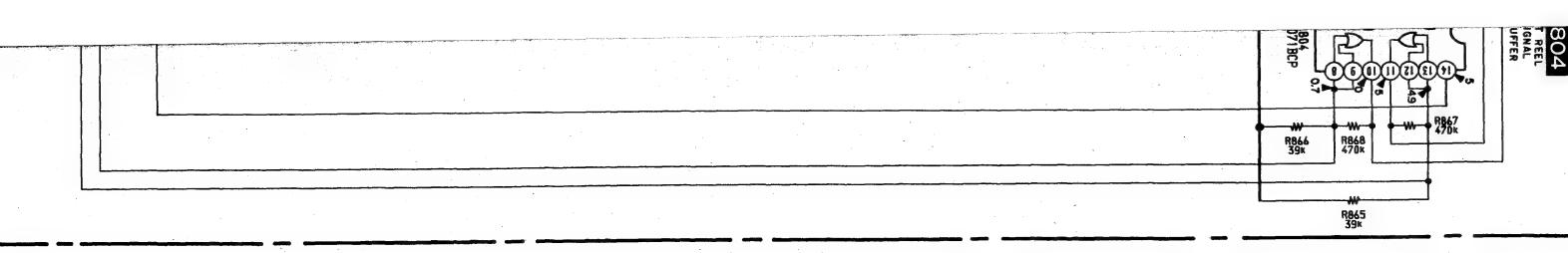


• IC Block Diagram  
IC805, 807 BA6219B  
IC803, 806, 808 LB1641



- Note:**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
  - All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
  - $\triangle$  : internal component.
  - $\square$  : nonflammable resistor.
- Note:** The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety. Replace only with part number specified.

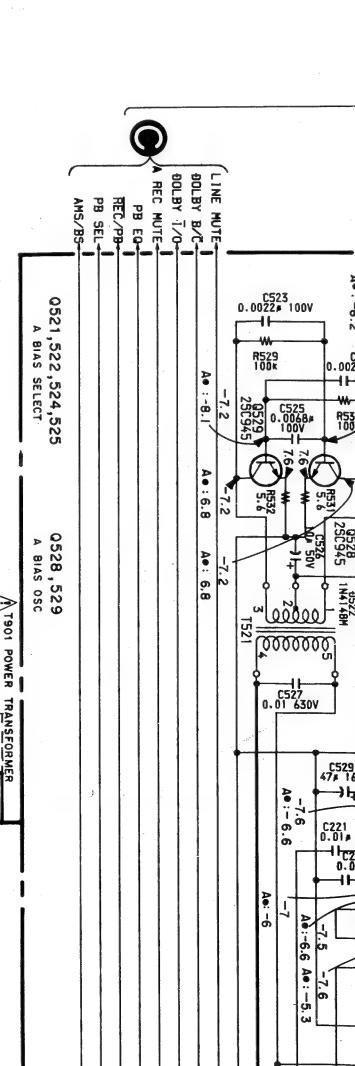
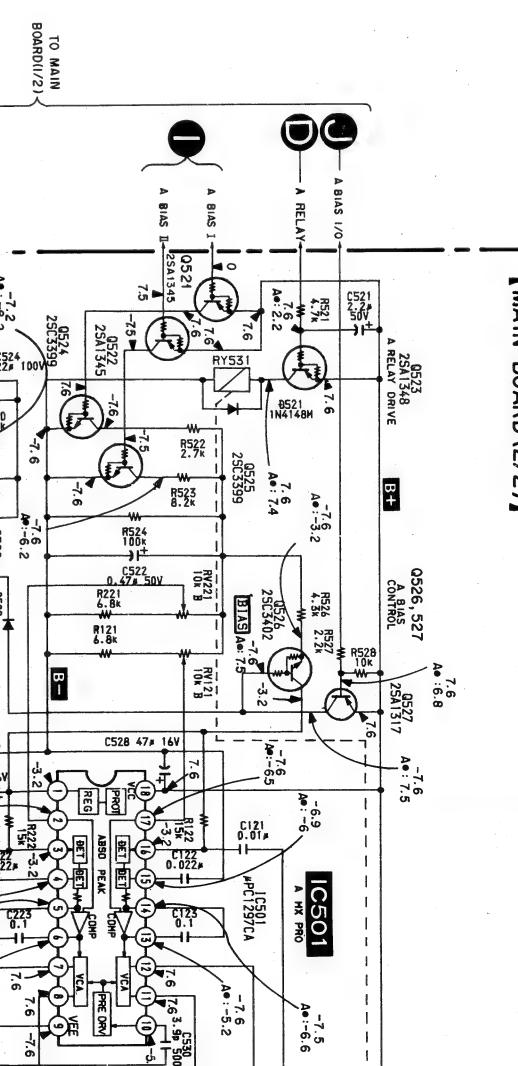
- $\square$  : adjustment for repair.
- Voltage is dc with respect to ground under no-signal conditions.
- no mark: POWER ON
- < >: HIGH SPEED DUBBING
- \*: Impossible to measure the voltage at the marked points.
- Voltages are taken with a VOM (input impedance  $10M\Omega$ ). Voltage variations may be noted due to normal production tolerances.



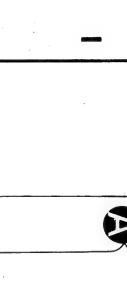
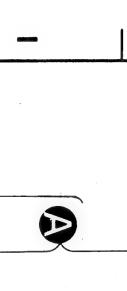
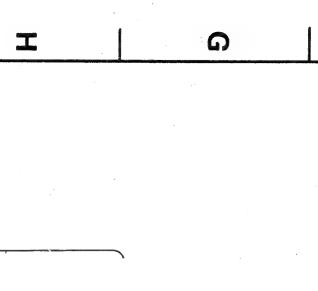
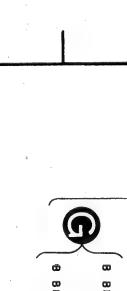
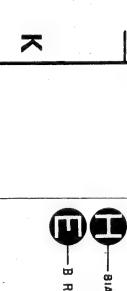
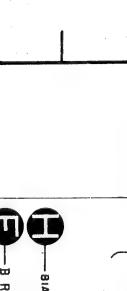
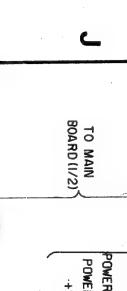
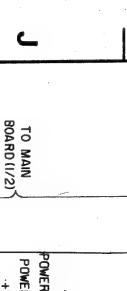
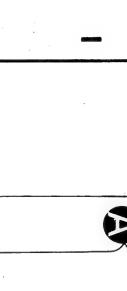
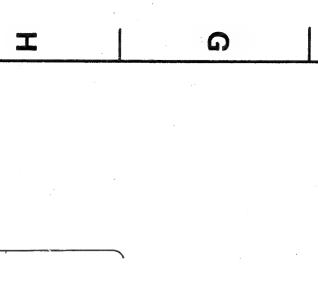
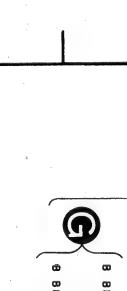
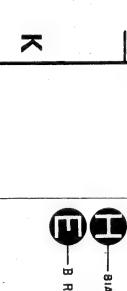
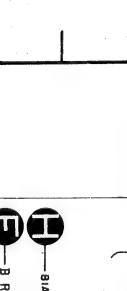
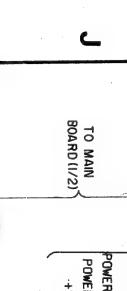
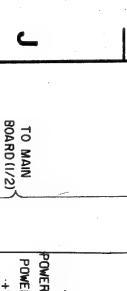
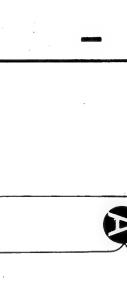
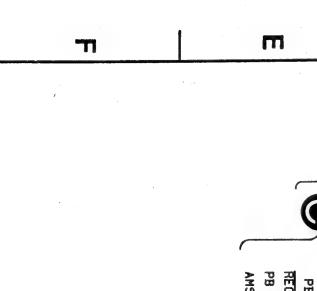
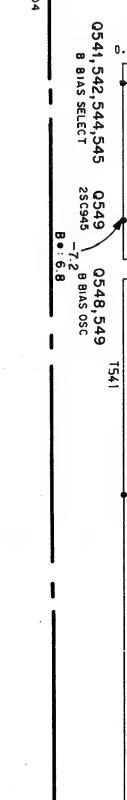
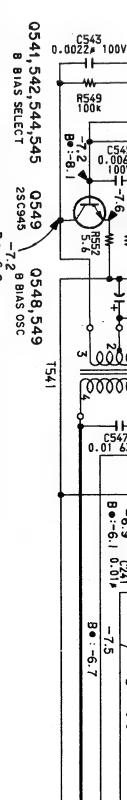
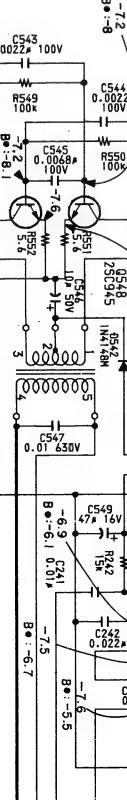
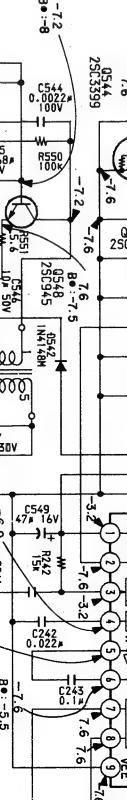
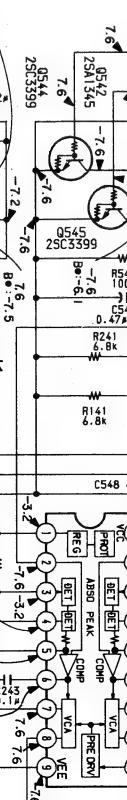
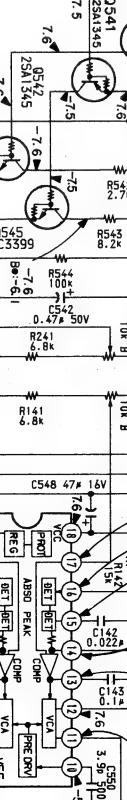
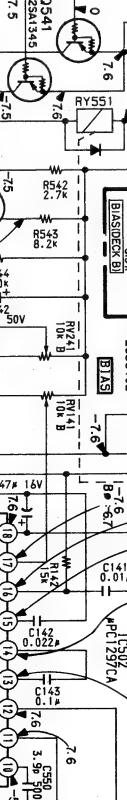
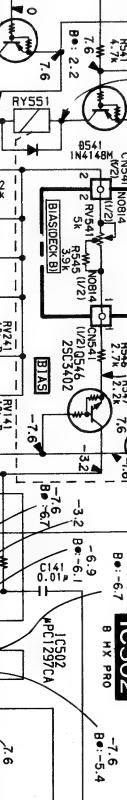
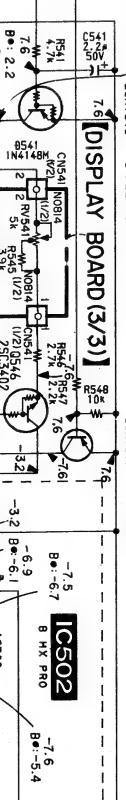
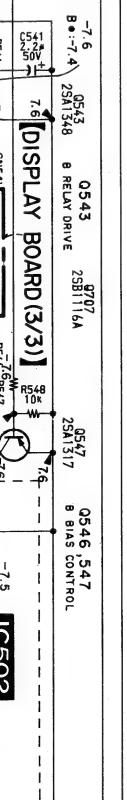
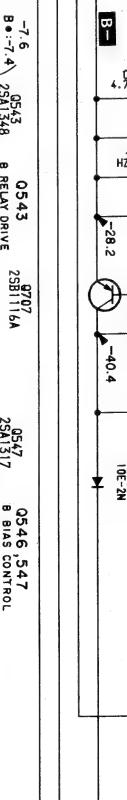
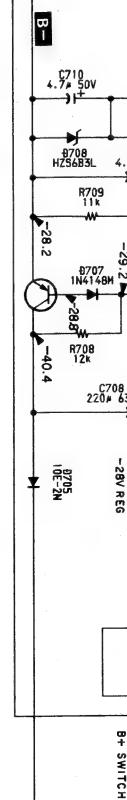
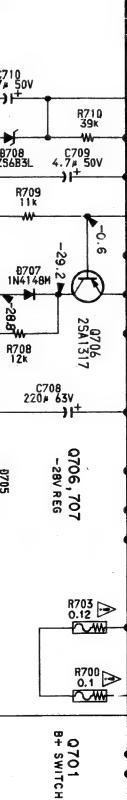
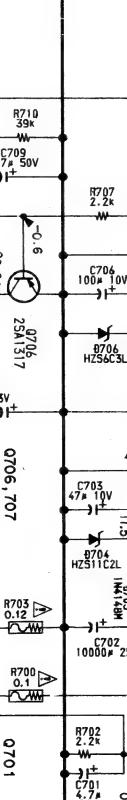
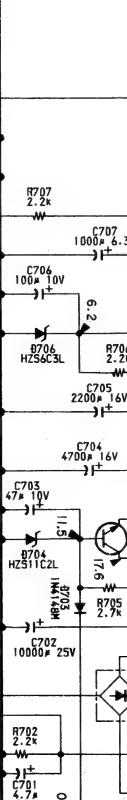
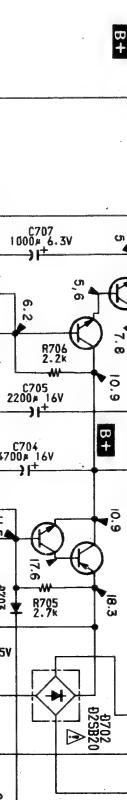
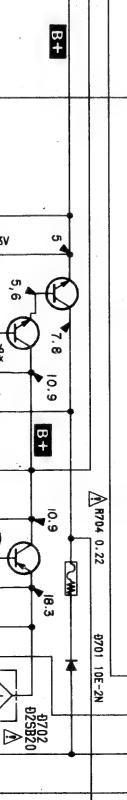
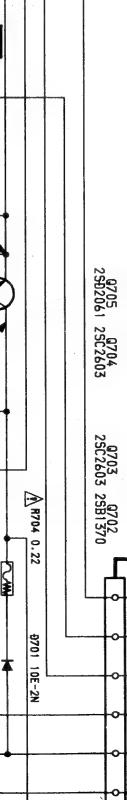
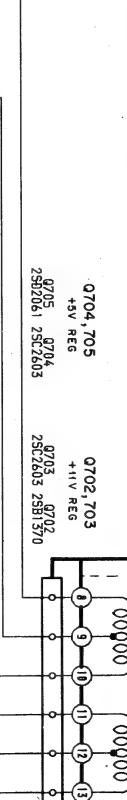
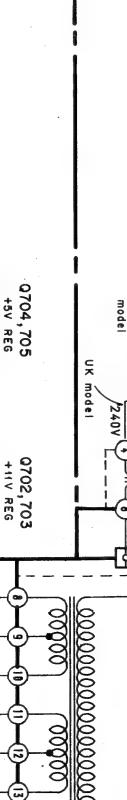
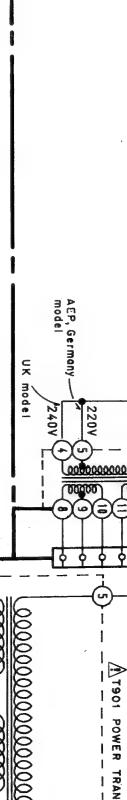
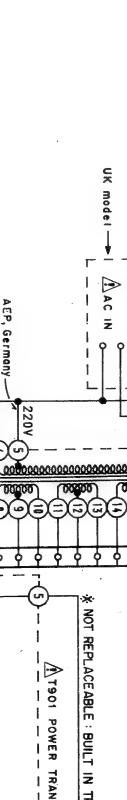
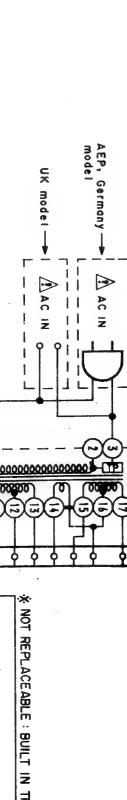
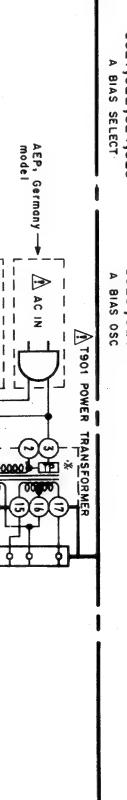
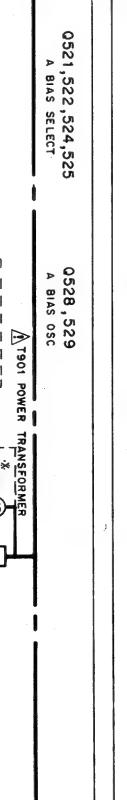
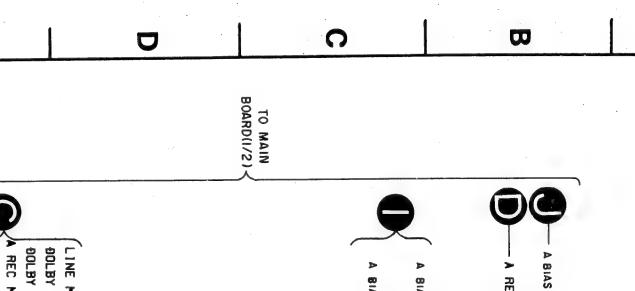
## 5-6. SCHEMATIC DIAGRAM —AUDIO/POWER SECTION—

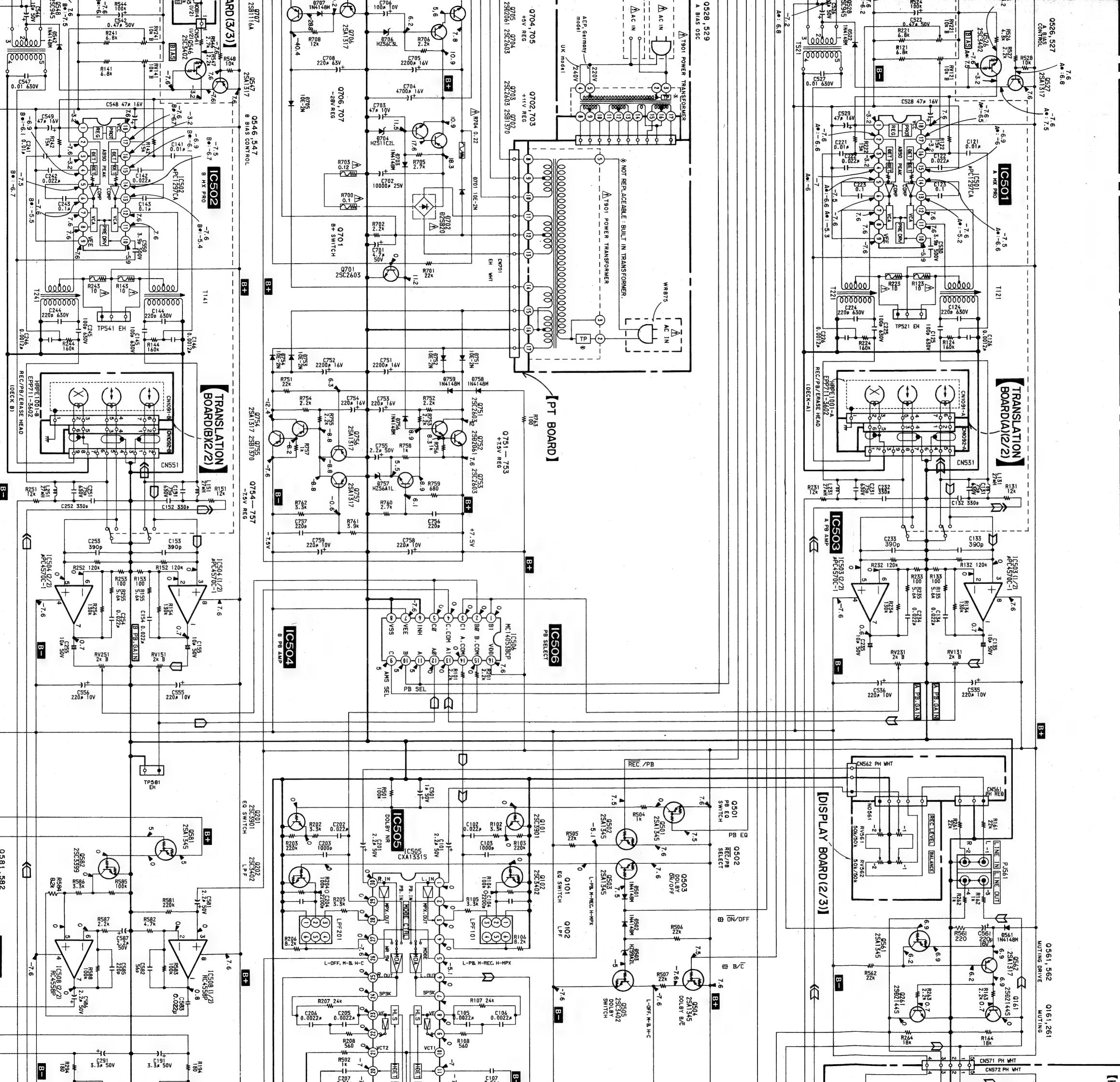
1      2      3      4      5      6

### [MAIN BOARD (2/2)]



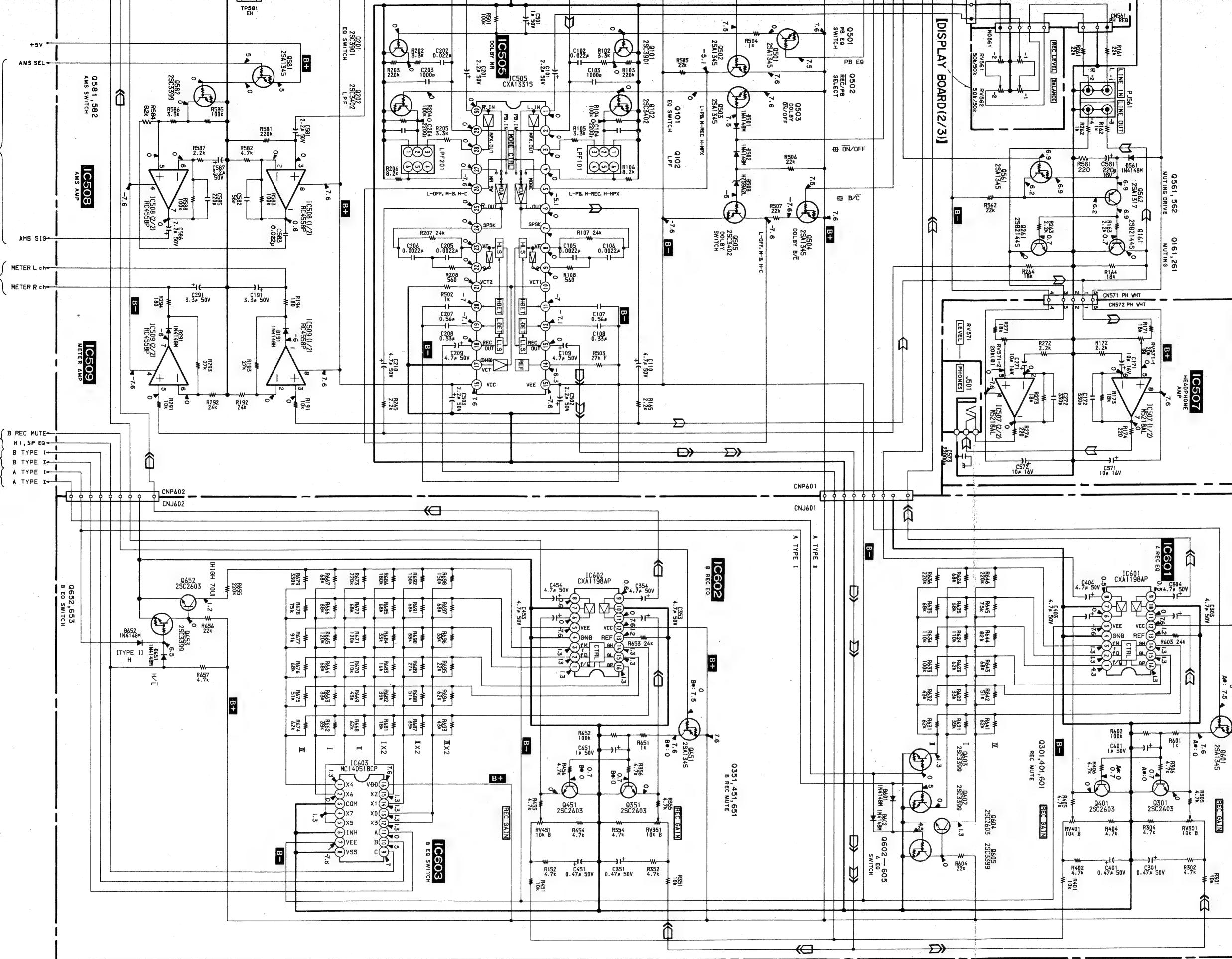
**NOTICE:** % NOT REPLACEABLE: BUILT IN TUBE  
AEP, Germany → △ AC IN → △ 1901 POWER TRANSFORMER



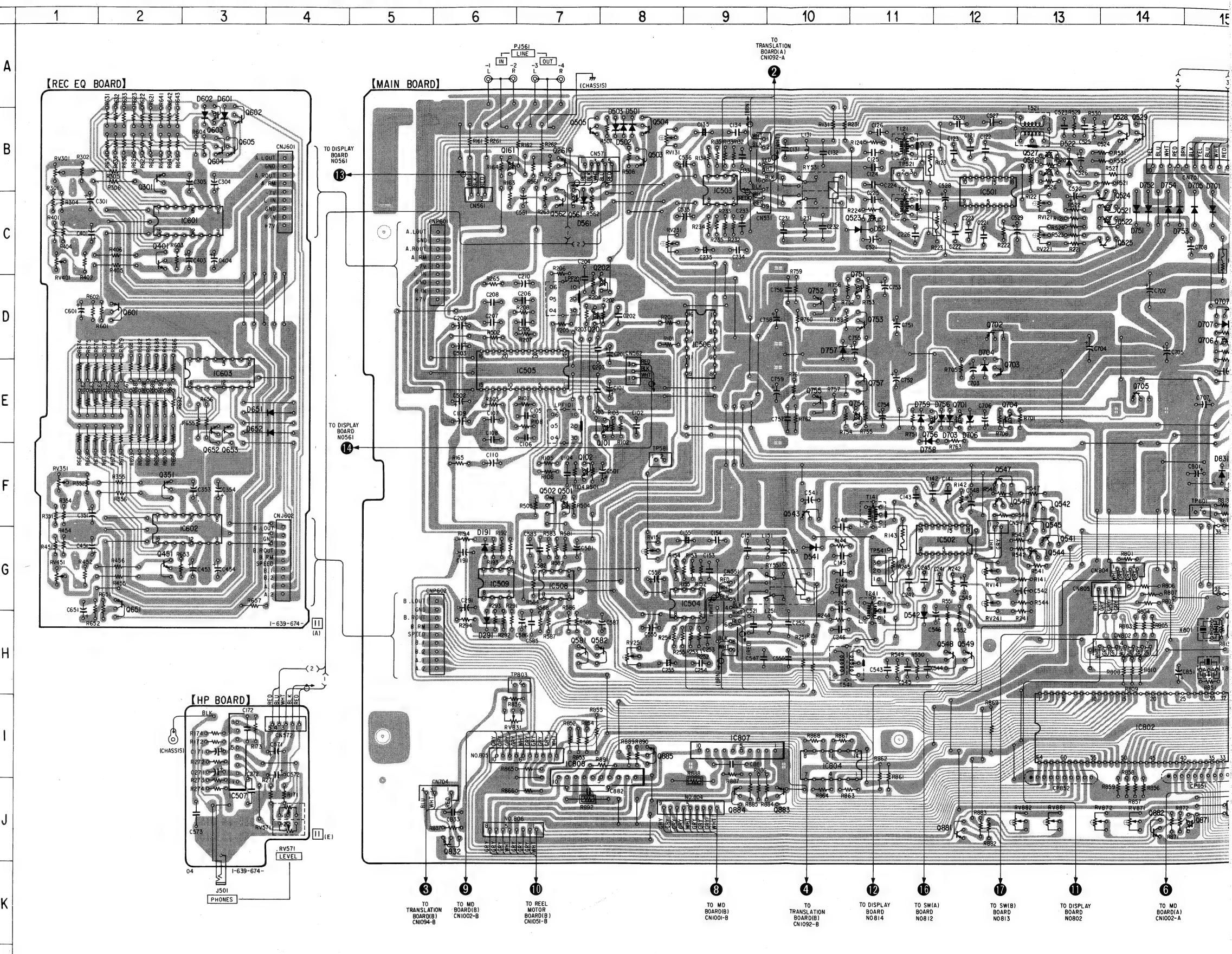


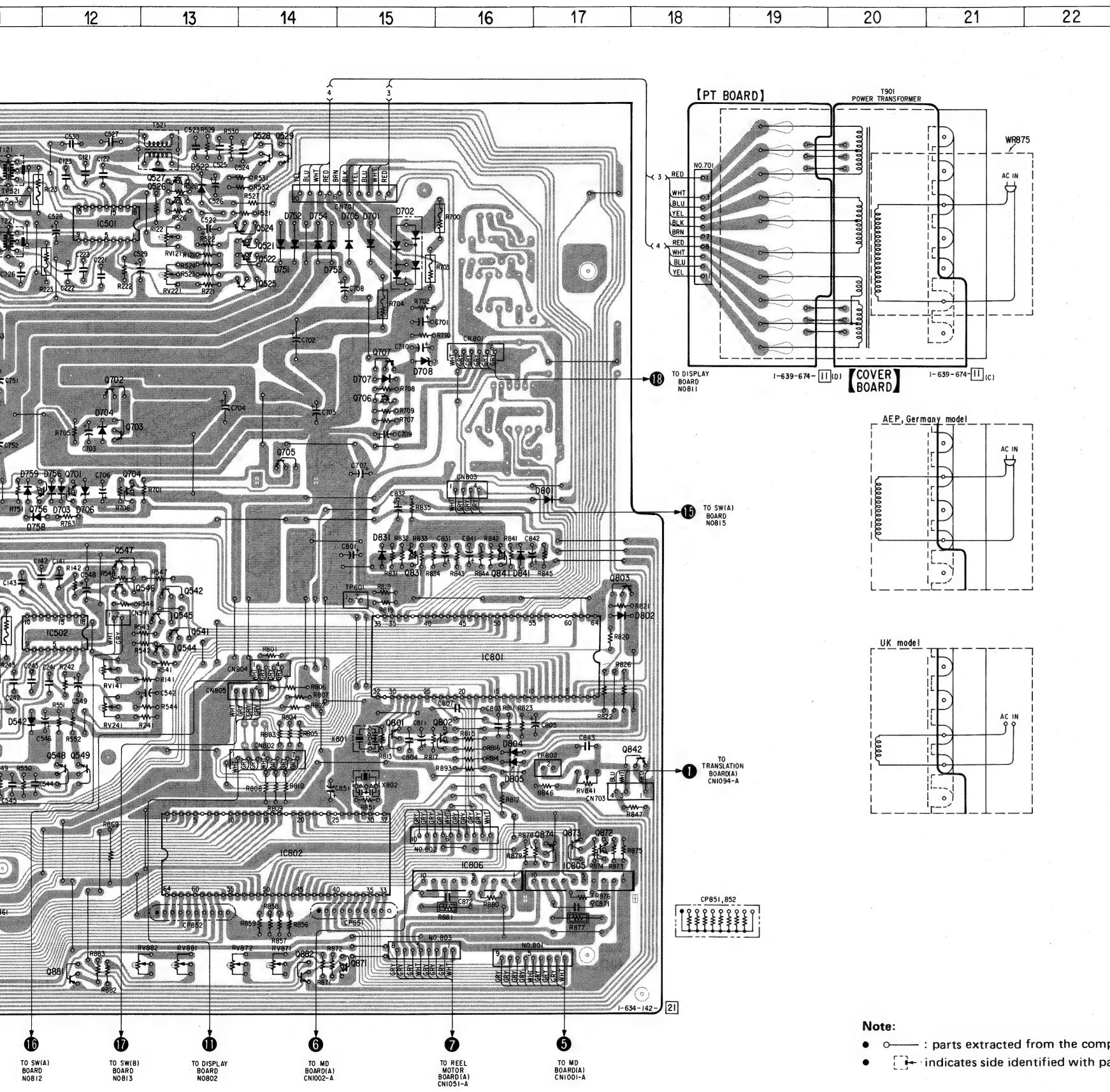
[HP BOARD]

REC EQ BC



5-7. PRINTED WIRING BOARDS —AUDIO/SYSTEM CONTROL/POWER SECTION





- Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D191	G-6	Q451	G-2
D291	H-6	Q501	F-7
D501	B-8	Q502	F-7
D502	B-8	Q503	B-8
D503	B-8	Q504	B-8
D521	C-11	Q505	B-7
D522	B-13	Q521	C-14
D541	G-10	Q522	C-14
D542	H-11	Q523	C-11
D561	C-7	Q524	C-14
D601	B-3	Q525	C-14
D602	B-3	Q526	B-13
D651	E-3	Q527	B-13
D652	E-3	Q528	B-14
D701	C-15	Q529	B-14
D702	C-15	Q541	G-13
D703	E-12	Q542	F-13
D704	E-12	Q543	F-10
D705	C-15	Q544	G-13
D706	E-12	Q545	G-13
D707	D-15	Q546	F-12
D708	D-15	Q547	F-12
D751	C-14	Q548	H-12
D752	C-14	Q549	H-12
D753	C-14	Q561	C-7
D754	C-14	Q562	C-7
D756	E-12	Q581	H-7
D757	D-10	Q582	H-7
D758	E-11	Q601	D-2
D759	E-11	Q602	B-3
D801	E-17	Q603	B-3
D802	F-17	Q604	B-3
D804	H-16	Q605	B-3
D805	H-16	Q651	G-2
D831	F-15	Q652	E-3
D841	F-16	Q653	E-3
		Q701	E-12
IC501	B-12	Q702	D-12
IC502	G-12	Q703	E-12
IC503	C-9	Q704	E-12
IC504	G-9	Q705	E-14
IC505	E-7	Q706	D-15
IC506	D-9	Q707	D-15
IC507	I-3	Q751	D-11
IC508	G-7	Q752	D-10
IC509	G-6	Q753	D-11
IC601	C-3	Q754	E-11
IC602	G-3	Q755	E-10
IC603	E-3	Q756	E-11
IC801	G-16	Q757	E-11
IC802	I-14	Q801	H-15
IC804	I-10	Q802	H-16
IC805	I-17	Q803	F-17
IC806	I-16	Q831	F-15
IC807	I-9	Q832	J-6
IC808	I-7	Q841	F-16
		Q842	H-18
Q101	E-8	Q871	J-15
Q102	F-7	Q872	I-17
Q161	B-6	Q873	I-17
Q201	D-7	Q874	I-17
Q202	D-8	Q881	J-12
Q261	B-7	Q882	J-14
Q301	B-2	Q883	J-10
Q351	F-2	Q884	J-9
Q401	C-2	Q885	I-8

**Note:**

- : parts extracted from the component side
  - indicates side identified with part number

## SECTION 6 EXPLODED VIEWS

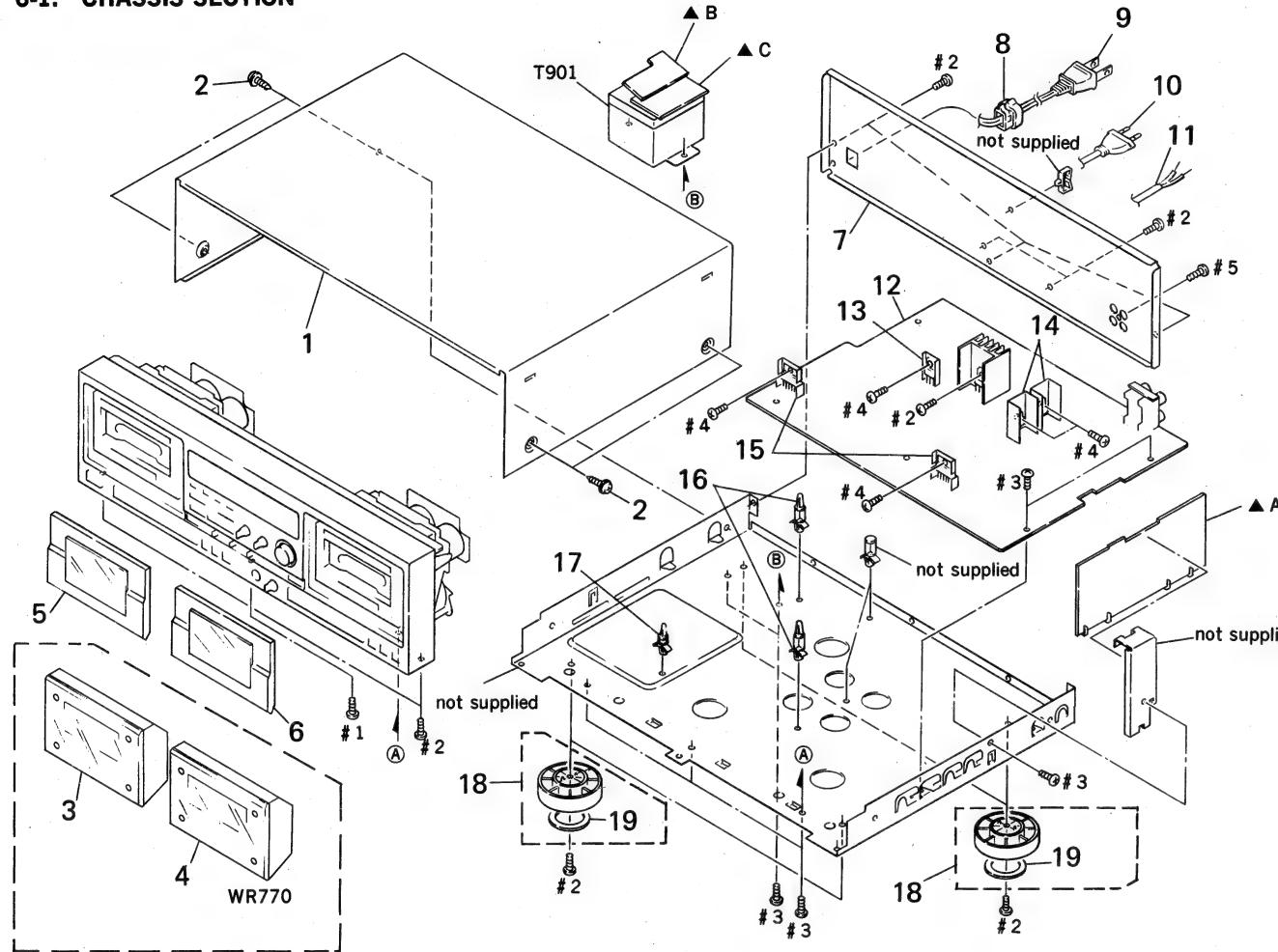
**NOTE:**

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked “\*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts Example: KNOB, BALANCE (WHITE)...(RED)

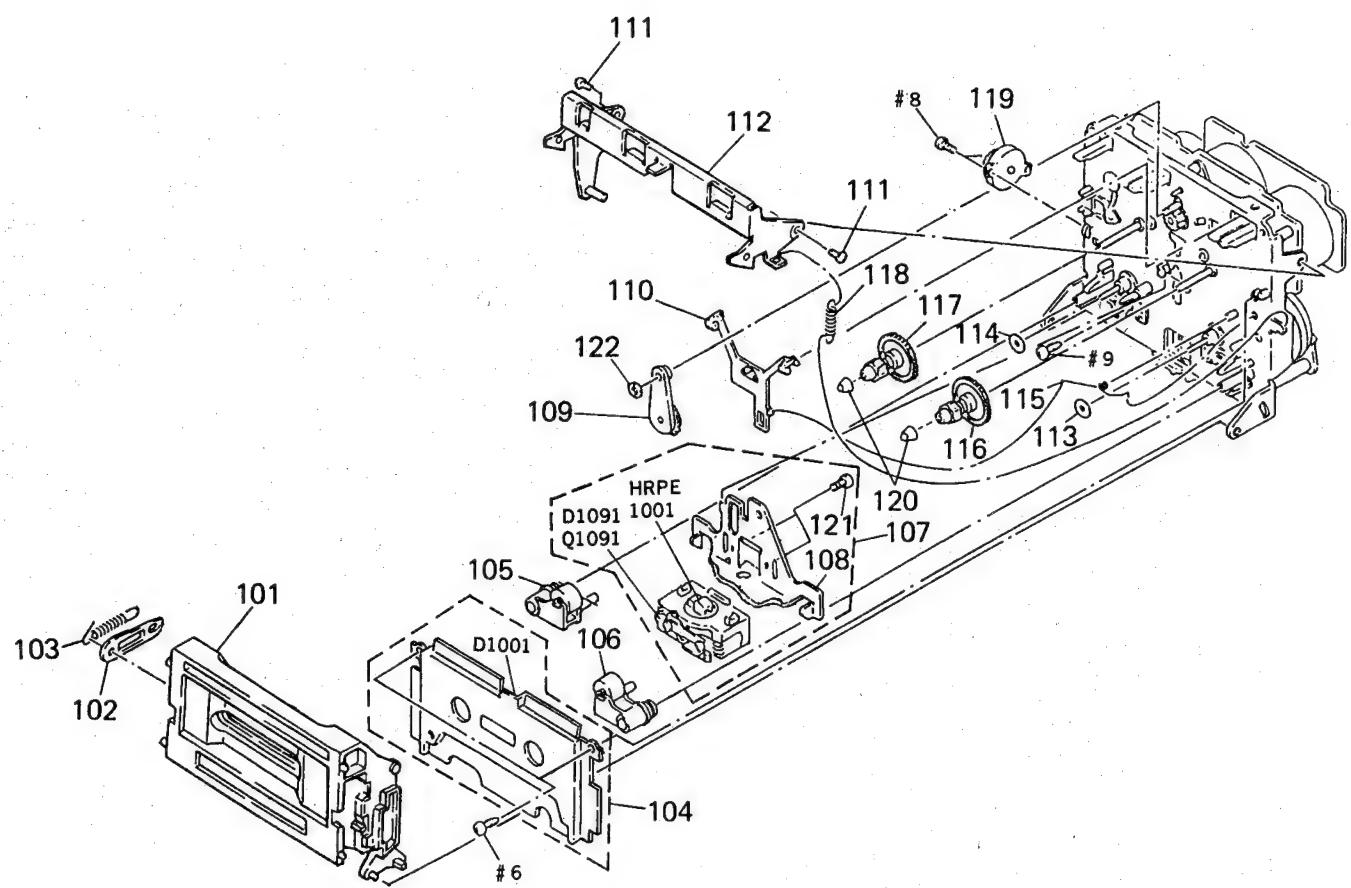
Parts Color Cabinet's Color

- Hardware(# mark) list is given in the last of this parts list.

The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

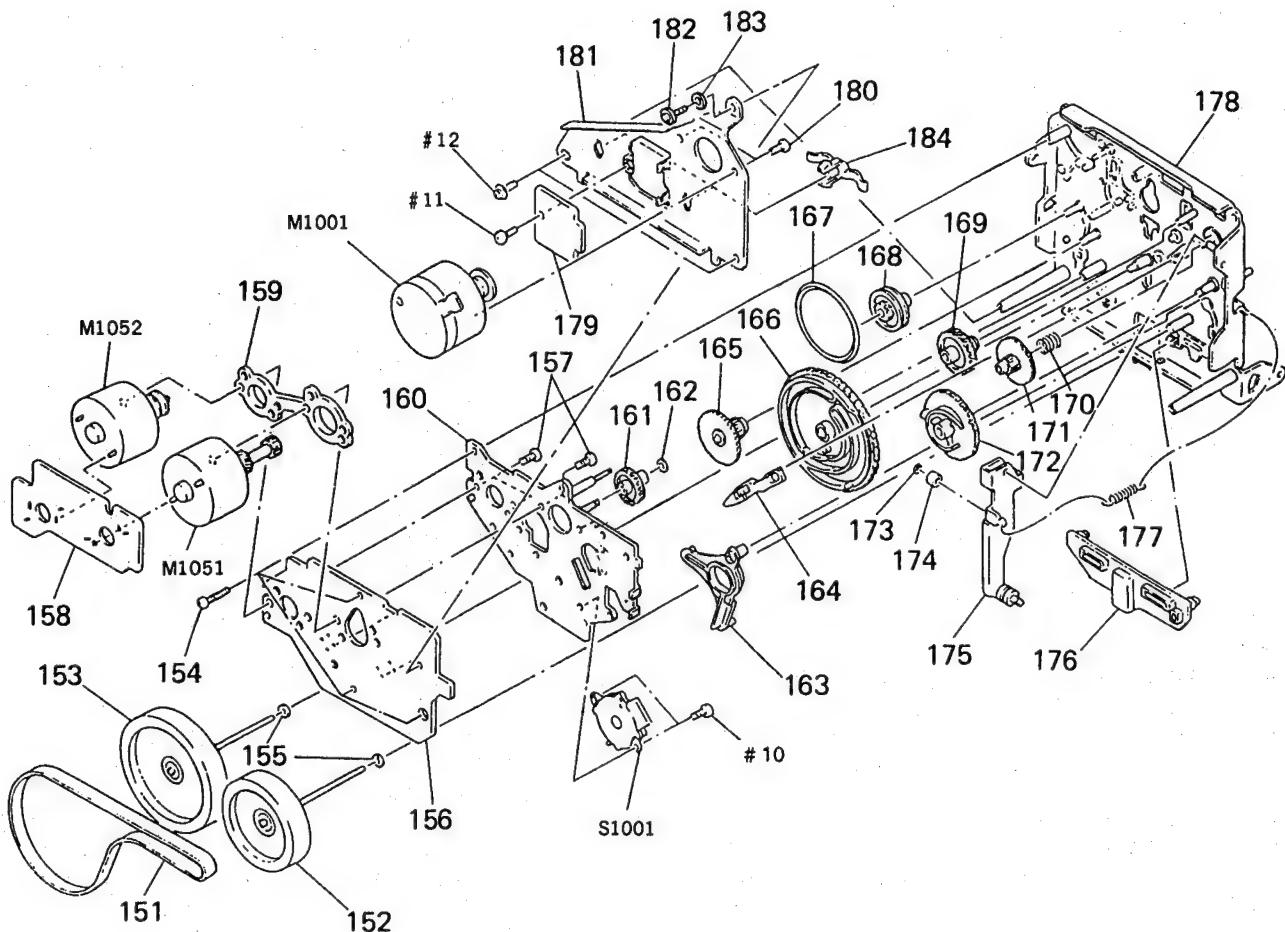
**6-1. CHASSIS SECTION**

**6-3. MECHANISM DECK SECTION 1  
(TCM-200R5)**



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	X-3362-814-1	HOLDER (CD) ASSY, CASSETTE		114	3-356-714-01	WASHER	
102	* 3-356-717-01	LEVER (JOINT)		115	3-356-619-01	SPRING (B), TORSION	
103	3-356-626-01	SPRING, TENSION		116	X-3356-627-1	GEAR (T) ASSY	
104	X-3356-613-1	PLATE ASSY, ORNAMENTAL		117	X-3356-628-1	GEAR (S) ASSY	
105	X-3343-456-1	LEVER (PINCH R) ASSY		118	3-356-625-01	SPRING, TENSION	
106	X-3343-455-1	LEVER (PINCH F) ASSY		119	3-319-224-31	DAMPER, SMALL	
107	A-2003-723-A	BASE ASSY, HEAD		120	3-362-308-01	CAP (REEL)	
108	X-3362-819-2	SLIDER (HEAD CHASSIS R) ASSY		121	3-356-716-01	SCREW (2X4) (B TIGHT), +P	
109	X-3356-641-1	LEVER (FR2) ASSY		122	3-669-465-11	WASHER (1.5), STOPPER	
110	3-356-614-01	SLIDER (BRAKE)		D1001	8-719-980-85	DIODE SLF-325C	
111	3-356-601-11	SCREW, STEP		D1091	8-719-950-74	DIODE SLR-314D-B	
112	* X-3356-608-1	LEVER (LIFTER) ASSY		Q1091	8-729-809-43	PHOTO SENSOR SPS-314B-BE	
113	3-356-713-01	WASHER					

**6-4. MECHANISM DECK SECTION 2  
(TCM-200R5)**



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	3-356-604-01	BELT (CAPSTAN)		170	3-356-605-01	SPRING, COMPRESSION	
152	X-3356-642-1	FLYWHEEL (R FWD) ASSY		171	3-356-609-01	GEAR (LOADING)	
153	X-3356-643-1	FLYWHEEL (R REV) ASSY		172	3-356-616-01	GEAR (LOADING CAM)	
154	3-355-801-01	SCREW (BTP 2X18)		173	3-558-708-11	WASHER, STOPPER	
155	3-356-705-01	WASHER (CAPSTAN)		174	3-356-630-01	ROLLER (LOADING)	
156	* 1-632-740-11	MD BOARD		175	* X-3356-606-1	LEVER (LOADING) ASSY	
157	3-363-804-01	SCREW (+P 2.6X6.5)		176	3-356-612-01	SLIDER (REVERSE)	
158	* 1-632-741-11	REEL MOTOR BOARD		177	3-356-624-01	SPRING, TENSION	
159	* 3-356-628-01	SPACER (MOTOR)		178	X-3356-634-1	CHASSIS (R2) COMPLETE ASSY. MECH	
160	* X-3356-602-4	BRACKET (MOTOR R) ASSY		179	* 1-634-323-11	TRANSLATION BOARD	
161	3-356-702-01	GEAR (COMMUNICATION B)		180	4-885-599-00	SCREW, FITTING, REINFORCEMENT	
162	3-669-465-00	WASHER (1.5), STOPPER		181	* 3-356-629-01	BRACKET (THRUST RETAINER R)	
163	3-356-613-01	LEVER (MODE)		182	3-356-707-01	SCREW (+PTPWH 2X25)	
164	3-356-617-01	LEVER (SELECTION)		183	* 3-356-718-01	SPACER (THRUST RETAINER R)	
165	3-356-606-01	GEAR (MODE)		184	3-575-321-00	RETAINER, THRUST, CAPSTAN	
166	3-356-615-01	GEAR (MODE CAM RR)					
167	3-356-603-01	BELT (MODE)					
168	3-356-607-01	PULLEY (MODE)					
169	3-356-703-01	GEAR (COMMUNICATION C)					
M1001	X-3356-605-1	MOTOR (CAPSTAN R) ASSY					
M1051	X-3356-638-1	MOTOR (REEL R) ASSY					
M1052	X-3356-604-1	MOTOR (ASSIST) ASSY					
S1001	1-466-525-11	ENCODER, ROTARY					

## MAIN

# SECTION 7

## ELECTRICAL PARTS LIST

**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- CAPACITORS  
uF:  $\mu$ F

- RESISTORS  
All resistors are in ohms  
METAL: Metal-film resistor  
METAL OXIDE: Metal Oxide-film resistor  
F: nonflammable
- COILS  
uH:  $\mu$ H
- SEMICONDUCTORS  
In each case, u:  $\mu$ , for example:  
uA...:  $\mu$ A..., uPA...:  $\mu$ PA...,  
uPB...:  $\mu$ PB..., uPC...:  $\mu$ PC...,  
uPD...:  $\mu$ PD...

The components identified by mark  or dotted line with mark  are critical for safety.  
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
	* A-2006-392-A MAIN BOARD, COMPLETE	*****				C145	1-136-433-11	FILM	100PF	5%	630V
	*	*****				C146	1-130-472-00	MYLAR	0.0012uF	5%	50V
	*	*****				C151	1-136-273-91	FILM	75PF	5%	630V
	*	*****				C152	1-162-288-31	CERAMIC	330PF	10%	50V
	*	*****				C153	1-110-342-11	MYLAR	390PF	5%	50V
	7-682-548-09	SCREW +B	3X8			C154	1-136-157-00	FILM	0.022uF	5%	50V
	7-682-548-04	SCREW +BVTT	3X8	(S)		C155	1-124-657-00	ELECT	10uF	20%	50V
	< CAPACITOR >					C191	1-123-382-00	ELECT	3.3uF	20%	100V
C101	1-124-925-11	ELECT	2.2uF	20%	100V	C201	1-124-925-11	ELECT	2.2uF	20%	100V
C102	1-136-157-00	FILM	0.022uF	5%	50V	C202	1-136-157-00	FILM	0.022uF	5%	50V
C103	1-162-294-31	CERAMIC	0.001uF	10%	50V	C203	1-162-294-31	CERAMIC	0.001uF	10%	50V
C104	1-161-375-00	CERAMIC	0.0022uF	20%	50V	C204	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C105	1-130-475-00	MYLAR	0.0022uF	5%	50V	C205	1-130-475-00	MYLAR	0.0022uF	5%	50V
C106	1-130-475-00	MYLAR	0.0022uF	5%	50V	C206	1-130-475-00	MYLAR	0.0022uF	5%	50V
C107	1-136-174-00	FILM	0.56uF	5%	50V	C207	1-136-174-00	FILM	0.56uF	5%	50V
C108	1-136-171-00	FILM	0.33uF	5%	50V	C208	1-136-171-00	FILM	0.33uF	5%	50V
C109	1-124-927-11	ELECT	4.7uF	20%	100V	C209	1-124-927-11	ELECT	4.7uF	20%	100V
C110	1-124-927-11	ELECT	4.7uF	20%	100V	C210	1-124-927-11	ELECT	4.7uF	20%	100V
C121	1-136-153-00	FILM	0.01uF	5%	50V	C221	1-136-153-00	FILM	0.01uF	5%	50V
C122	1-136-157-00	FILM	0.022uF	5%	50V	C222	1-136-157-00	FILM	0.022uF	5%	50V
C123	1-136-165-00	FILM	0.1uF	5%	50V	C223	1-136-165-00	FILM	0.1uF	5%	50V
C124	1-136-437-11	FILM	220PF	5%	630V	C224	1-136-437-11	FILM	220PF	5%	630V
C125	1-136-433-11	FILM	100PF	5%	630V	C225	1-136-433-11	FILM	100PF	5%	630V
C126	1-130-472-00	MYLAR	0.0012uF	5%	50V	C226	1-130-472-00	MYLAR	0.0012uF	5%	50V
C131	1-136-273-91	FILM	75PF	5%	630V	C231	1-136-273-91	FILM	75PF	5%	630V
C132	1-162-288-31	CERAMIC	330PF	10%	50V	C232	1-162-288-31	CERAMIC	330PF	10%	50V
C133	1-110-342-11	MYLAR	390PF	5%	50V	C233	1-110-342-11	MYLAR	390PF	5%	50V
C134	1-136-157-00	FILM	0.022uF	5%	50V	C234	1-136-157-00	FILM	0.022uF	5%	50V
C135	1-124-657-00	ELECT	10uF	20%	50V	C235	1-124-657-00	ELECT	10uF	20%	50V
C141	1-136-153-00	FILM	0.01uF	5%	50V	C241	1-136-153-00	FILM	0.01uF	5%	50V
C142	1-136-157-00	FILM	0.022uF	5%	50V	C242	1-136-157-00	FILM	0.022uF	5%	50V
C143	1-136-165-00	FILM	0.1uF	5%	50V	C243	1-136-165-00	FILM	0.1uF	5%	50V
C144	1-136-437-11	FILM	220PF	5%	630V	C244	1-136-437-11	FILM	220PF	5%	630V
						C245	1-136-433-11	FILM	100PF	5%	630V
						C246	1-130-472-00	MYLAR	0.0012uF	5%	50V

MAIN

Ref. No.	Part No.	Description		Remark	Ref. No.	Part No.	Description		Remark	
C251	1-136-273-91	FILM	75PF	5%	630V	C710	1-124-927-11	ELECT	4.7uF	20% 100V
C252	1-162-288-31	CERAMIC	330PF	10%	50V	C751	1-124-556-11	ELECT	2200uF	20% 16V
C253	1-110-342-11	MYLAR	390PF	5%	50V	C752	1-124-556-11	ELECT	2200uF	20% 16V
C254	1-136-157-00	FILM	0.022uF	5%	50V	C753	1-124-120-11	ELECT	220uF	20% 25V
C255	1-124-657-00	ELECT	10uF	20%	50V	C754	1-124-120-11	ELECT	220uF	20% 25V
					C755	1-124-925-11	ELECT	2.2uF	20% 100V	
C291	1-123-382-00	ELECT	3.3uF	20%	100V					
C501	1-124-903-11	ELECT	1uF	20%	50V	C756	1-162-286-31	CERAMIC	220PF	10% 50V
C502	1-124-925-11	ELECT	2.2uF	20%	100V	C757	1-162-286-31	CERAMIC	220PF	10% 50V
C503	1-124-925-11	ELECT	2.2uF	20%	100V	C758	1-126-176-11	ELECT	220uF	20% 10V
C521	1-124-925-11	ELECT	2.2uF	20%	100V	C759	1-126-176-11	ELECT	220uF	20% 10V
					C801	1-124-443-00	ELECT	100uF	20% 10V	
C522	1-124-902-00	ELECT	0.47uF	20%	50V	C803	1-161-494-00	CERAMIC	0.022uF	25V
C523	1-136-230-00	FILM	0.0022uF	5%	100V	C804	1-162-306-11	CERAMIC	0.01uF	20% 16V
C524	1-136-230-00	FILM	0.0022uF	5%	100V	C805	1-124-925-11	ELECT	2.2uF	20% 100V
C525	1-130-856-00	FILM	0.0068uF	5%	100V	C807	1-164-159-11	CERAMIC	0.1uF	50V
C526	1-124-907-11	ELECT	10uF	20%	50V	C811	1-126-233-11	ELECT	22uF	20% 50V
					C831	1-124-927-11	ELECT	4.7uF	20% 100V	
C527	1-136-601-11	FILM	0.01uF	5%	630V	C832	1-124-477-11	ELECT	47uF	20% 25V
C528	1-124-477-11	ELECT	47uF	20%	25V	C833	1-130-479-00	MYLAR	0.0047uF	5% 50V
C529	1-124-477-11	ELECT	47uF	20%	25V	C841	1-124-927-11	ELECT	4.7uF	20% 100V
C530	1-107-045-00	MICA	3.9PF		500V	C842	1-124-477-11	ELECT	47uF	20% 25V
C535	1-126-176-11	ELECT	220uF	20%	10V					
					C843	1-130-479-00	MYLAR	0.0047uF	5% 50V	
C536	1-126-176-11	ELECT	220uF	20%	10V	C851	1-124-443-00	ELECT	100uF	20% 10V
C541	1-124-925-11	ELECT	2.2uF	20%	100V	C871	1-164-159-11	CERAMIC	0.1uF	50V
C542	1-124-902-00	ELECT	0.47uF	20%	50V	C872	1-164-159-11	CERAMIC	0.1uF	50V
C543	1-136-230-00	FILM	0.0022uF	5%	100V	C881	1-164-159-11	CERAMIC	0.1uF	50V
C544	1-136-230-00	FILM	0.0022uF	5%	100V	C882	1-164-159-11	CERAMIC	0.1uF	50V
C545	1-130-856-00	FILM	0.0068uF	5%	100V					
C546	1-124-907-11	ELECT	10uF	20%	50V					
C547	1-136-601-11	FILM	0.01uF	5%	630V					
C548	1-124-477-11	ELECT	47uF	20%	25V					
C549	1-124-477-11	ELECT	47uF	20%	25V					
C550	1-107-045-00	MICA	3.9PF		500V	CN541	* 1-564-336-00	PIN, CONNECTOR 2P		
C555	1-126-176-11	ELECT	220uF	20%	10V	CN561	* 1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P		
C556	1-126-176-11	ELECT	220uF	20%	10V	CN562	* 1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P		
C561	1-124-120-11	ELECT	220uF	20%	25V	CN571	* 1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P		
C581	1-124-925-11	ELECT	2.2uF	20%	100V	CN701	* 1-564-513-11	PLUG, CONNECTOR 10P		
C582	1-162-217-31	CERAMIC	56PF	5%	50V	CN801	* 1-564-340-61	PIN, CONNECTOR 6P		
C583	1-136-157-00	FILM	0.022uF	5%	50V	CN802	* 1-564-510-11	PLUG, CONNECTOR 7P		
C585	1-162-286-31	CERAMIC	220PF	10%	50V	CN803	* 1-564-338-00	PIN, CONNECTOR 4P		
C586	1-124-925-11	ELECT	2.2uF	20%	100V	CN804	* 1-564-338-61	PIN, CONNECTOR 4P		
C587	1-124-925-11	ELECT	2.2uF	20%	100V	CN805	* 1-564-338-71	PIN, CONNECTOR 4P		
C701	1-124-927-11	ELECT	4.7uF	20%	100V	CNP601	* 1-560-339-00	PIN, CONNECTOR 9P		
C702	1-124-772-11	ELECT	10000uF	20%	25V	CNP602	* 1-560-339-00	PIN, CONNECTOR 9P		
C703	1-124-126-00	ELECT	47uF	20%	10V					
C704	1-124-898-11	ELECT	4700uF	20%	16V					
C705	1-124-556-11	ELECT	2200uF	20%	16V					
C706	1-124-443-00	ELECT	100uF	20%	10V	CP851	1-233-199-11	COMPOSITION CIRCUIT BLOCK 10KX8		
C707	1-124-471-00	ELECT	1000uF	20%	6.3V	CP852	1-233-199-11	COMPOSITION CIRCUIT BLOCK 10KX8		
C708	1-124-919-11	ELECT	220uF	20%	63V					
C709	1-124-927-11	ELECT	4.7uF	20%	100V					

## MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark				
< DIODE >											
D191	8-719-912-20	DIODE 1SS120		IC806	8-759-822-09	IC LB1641					
D291	8-719-912-20	DIODE 1SS120		IC807	8-759-973-95	IC BA6219B					
D501	8-719-912-20	DIODE 1SS120		IC808	8-759-822-09	IC LB1641					
D502	8-719-912-20	DIODE 1SS120		< COIL >							
D503	8-719-933-54	DIODE HZS9A2L		L131	1-410-780-11	INDUCTOR	27mH				
D521	8-719-912-20	DIODE 1SS120		L151	1-410-780-11	INDUCTOR	27mH				
D522	8-719-912-20	DIODE 1SS120		L231	1-410-780-11	INDUCTOR	27mH				
D541	8-719-912-20	DIODE 1SS120		L251	1-410-780-11	INDUCTOR	27mH				
D542	8-719-912-20	DIODE 1SS120		< FILTER >							
D561	8-719-912-20	DIODE 1SS120		LPF101	1-235-980-11	FILTER, LOW PASS					
D701	8-719-200-77	DIODE 10E2N		LPF201	1-235-980-11	FILTER, LOW PASS					
D702	▲ 8-719-500-36	DIODE D2SB20		< JACK >							
D703	8-719-912-20	DIODE 1SS120		PJ561	1-565-258-11	JACK, PIN 4P (LINE IN/OUT)					
D704	8-719-933-70	DIODE HZS11C2L		< TRANSISTOR >							
D705	8-719-200-77	DIODE 10E2N		Q101	8-729-900-74	TRANSISTOR DTC143TS					
D706	8-719-933-41	DIODE HZS6C3L		Q102	8-729-900-80	TRANSISTOR DTC114ES					
D707	8-719-912-20	DIODE 1SS120		Q161	8-729-922-37	TRANSISTOR 2SD2144S					
D708	8-719-933-38	DIODE HZS6B3L		Q201	8-729-900-74	TRANSISTOR DTC143TS					
D751	8-719-200-77	DIODE 10E2N		Q202	8-729-900-80	TRANSISTOR DTC114ES					
D752	8-719-200-77	DIODE 10E2N		Q261	8-729-922-37	TRANSISTOR 2SD2144S					
D753	8-719-200-77	DIODE 10E2N		Q501	8-729-900-65	TRANSISTOR DTA144ES					
D754	8-719-200-77	DIODE 10E2N		Q502	8-729-900-65	TRANSISTOR DTA144ES					
D755	8-719-912-20	DIODE 1SS120		Q503	8-729-900-65	TRANSISTOR DTA144ES					
D757	8-719-933-33	DIODE HZS6A1L		Q504	8-729-900-65	TRANSISTOR DTA144ES					
D758	8-719-912-20	DIODE 1SS120		Q505	8-729-900-80	TRANSISTOR DTC114ES					
D759	8-719-912-20	DIODE 1SS120		Q521	8-729-900-65	TRANSISTOR DTA144ES					
D801	8-719-912-20	DIODE 1SS120		Q522	8-729-900-65	TRANSISTOR DTA144ES					
D802	8-719-912-20	DIODE 1SS120		Q523	8-729-900-61	TRANSISTOR DTA114ES					
D804	8-719-912-20	DIODE 1SS120		Q524	8-729-900-89	TRANSISTOR DTC144ES					
D805	8-719-912-20	DIODE 1SS120		Q525	8-729-900-89	TRANSISTOR DTC144ES					
D831	8-719-912-20	DIODE 1SS120		Q526	8-729-900-80	TRANSISTOR DTC114ES					
D841	8-719-912-20	DIODE 1SS120		Q527	8-729-821-04	TRANSISTOR 2SA1317-STU					
< IC >											
IC501	8-759-106-56	IC uPC1297CA		Q528	8-729-194-57	TRANSISTOR 2SC945-P					
IC502	8-759-106-56	IC uPC1297CA		Q529	8-729-194-57	TRANSISTOR 2SC945-P					
IC503	8-759-111-44	IC uPC4570C-1		Q541	8-729-900-65	TRANSISTOR DTA144ES					
IC504	8-759-111-44	IC uPC4570C-1		Q542	8-729-900-65	TRANSISTOR DTA144ES					
IC505	8-752-035-94	IC CXA1331S		Q543	8-729-900-61	TRANSISTOR DTA114ES					
IC506	8-759-140-53	IC uPD4053BC		Q544	8-729-900-89	TRANSISTOR DTC144ES					
IC508	8-759-945-58	IC RC4558P		Q545	8-729-900-89	TRANSISTOR DTC144ES					
IC509	8-759-945-58	IC RC4558P		Q546	8-729-900-80	TRANSISTOR DTC114ES					
IC801	8-759-636-41	IC M50944-159SP		Q547	8-729-821-04	TRANSISTOR 2SA1317-STU					
IC802	8-759-633-86	IC M50747-B83SP		Q548	8-729-194-57	TRANSISTOR 2SC945-P					
IC804	8-759-240-71	IC TC4071BP		Q549	8-729-194-57	TRANSISTOR 2SC945-P					
IC805	8-759-973-95	IC BA6219B		Q561	8-729-900-65	TRANSISTOR DTA144ES					

Note: The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q562	8-729-821-04	TRANSISTOR 2SA1317-STU		R133	1-249-405-11	CARBON	100 5% 1/4W
Q581	8-729-900-65	TRANSISTOR DTA144ES		R134	1-247-882-11	CARBON	130K 5% 1/4W
Q582	8-729-900-89	TRANSISTOR DTC144ES		R135	1-249-426-11	CARBON	5.6K 5% 1/4W
Q701	8-729-620-05	TRANSISTOR 2SC2603-EF		R141	1-249-427-11	CARBON	6.8K 5% 1/4W
Q702	8-729-924-90	TRANSISTOR 2SB1370-EF		R142	1-249-431-11	CARBON	15K 5% 1/4W
Q703	8-729-620-05	TRANSISTOR 2SC2603-EF		R143	△ 1-219-153-11	FUSIBLE	10 5% 1/4W F
Q704	8-729-620-05	TRANSISTOR 2SC2603-EF		R144	1-247-884-11	CARBON	160K 5% 1/4W
Q705	8-729-111-55	TRANSISTOR 2SD1312-K		R151	1-249-430-11	CARBON	12K 5% 1/4W
Q706	8-729-821-04	TRANSISTOR 2SA1317-STU		R152	1-247-881-00	CARBON	120K 5% 1/4W
Q707	8-729-140-04	TRANSISTOR 2SB1116A-L		R153	1-249-405-11	CARBON	100 5% 1/4W
Q751	8-729-620-05	TRANSISTOR 2SC2603-EF		R154	1-247-882-11	CARBON	130K 5% 1/4W
Q752	8-729-111-55	TRANSISTOR 2SD1312-K		R155	1-249-426-11	CARBON	5.6K 5% 1/4W
Q753	8-729-620-05	TRANSISTOR 2SC2603-EF		R161	1-249-433-11	CARBON	22K 5% 1/4W
Q754	8-729-821-04	TRANSISTOR 2SA1317-STU		R162	1-249-417-11	CARBON	1K 5% 1/4W
Q755	8-729-924-90	TRANSISTOR 2SB1370-EF		R163	1-249-421-11	CARBON	2.2K 5% 1/4W
Q756	8-729-821-04	TRANSISTOR 2SA1317-STU		R164	1-249-432-11	CARBON	18K 5% 1/4W
Q757	8-729-821-04	TRANSISTOR 2SA1317-STU		R165	1-249-421-11	CARBON	2.2K 5% 1/4W
Q801	8-729-620-05	TRANSISTOR 2SC2603-EF		R191	1-249-429-11	CARBON	10K 5% 1/4W
Q802	8-729-620-05	TRANSISTOR 2SC2603-EF		R192	1-247-864-11	CARBON	24K 5% 1/4W
Q803	8-729-821-04	TRANSISTOR 2SA1317-STU		R193	1-249-434-11	CARBON	27K 5% 1/4W
Q831	8-729-620-05	TRANSISTOR 2SC2603-EF		R194	1-249-408-11	CARBON	180 5% 1/4W
Q832	8-729-620-05	TRANSISTOR 2SC2603-EF		R201	1-249-421-11	CARBON	2.2K 5% 1/4W
Q841	8-729-620-05	TRANSISTOR 2SC2603-EF		R202	1-249-423-11	CARBON	3.3K 5% 1/4W
Q842	8-729-620-05	TRANSISTOR 2SC2603-EF		R203	1-247-887-00	CARBON	220K 5% 1/4W
Q871	8-729-900-65	TRANSISTOR DTA144ES		R204	1-249-441-11	CARBON	100K 5% 1/4W
Q872	8-729-900-80	TRANSISTOR DTC114ES		R205	1-249-423-11	CARBON	3.3K 5% 1/4W
Q873	8-729-900-80	TRANSISTOR DTC114ES		R206	1-249-428-11	CARBON	8.2K 5% 1/4W
Q874	8-729-900-80	TRANSISTOR DTC114ES		R207	1-247-864-11	CARBON	24K 5% 1/4W
Q881	8-729-900-65	TRANSISTOR DTA144ES		R208	1-249-414-11	CARBON	560 5% 1/4W
Q882	8-729-900-89	TRANSISTOR DTC144ES		R221	1-249-427-11	CARBON	6.8K 5% 1/4W
Q883	8-729-900-80	TRANSISTOR DTC114ES		R222	1-249-431-11	CARBON	15K 5% 1/4W
Q884	8-729-900-80	TRANSISTOR DTC114ES		R223	△ 1-219-153-11	FUSIBLE	10 5% 1/4W F
Q885	8-729-900-80	TRANSISTOR DTC114ES		R224	1-247-884-11	CARBON	160K 5% 1/4W
< RESISTOR >							
R101	1-249-421-11	CARBON	2.2K 5% 1/4W	R234	1-247-882-11	CARBON	130K 5% 1/4W
R102	1-249-423-11	CARBON	3.3K 5% 1/4W	R235	1-249-426-11	CARBON	5.6K 5% 1/4W
R103	1-247-887-00	CARBON	220K 5% 1/4W	R241	1-249-427-11	CARBON	6.8K 5% 1/4W
R104	1-249-441-11	CARBON	100K 5% 1/4W	R242	1-249-431-11	CARBON	15K 5% 1/4W
R105	1-249-423-11	CARBON	3.3K 5% 1/4W	R243	△ 1-219-153-11	FUSIBLE	10 5% 1/4W F
R106	1-249-428-11	CARBON	8.2K 5% 1/4W	R244	1-247-884-11	CARBON	160K 5% 1/4W
R107	1-247-864-11	CARBON	24K 5% 1/4W	R251	1-249-430-11	CARBON	12K 5% 1/4W
R108	1-249-414-11	CARBON	560 5% 1/4W	R252	1-247-881-00	CARBON	120K 5% 1/4W
R121	1-249-427-11	CARBON	6.8K 5% 1/4W	R253	1-249-405-11	CARBON	100 5% 1/4W
R122	1-249-431-11	CARBON	15K 5% 1/4W	R254	1-247-882-11	CARBON	130K 5% 1/4W
R123	△ 1-219-153-11	FUSIBLE	10 5% 1/4W F	R255	1-249-426-11	CARBON	5.6K 5% 1/4W
R124	1-247-884-11	CARBON	160K 5% 1/4W	R261	1-249-433-11	CARBON	22K 5% 1/4W
R131	1-249-430-11	CARBON	12K 5% 1/4W	R262	1-249-417-11	CARBON	1K 5% 1/4W
R132	1-247-881-00	CARBON	120K 5% 1/4W				

Note: The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

## MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R263	1-249-421-11	CARBON	2.2K 5% 1/4W	R703	▲ 1-219-154-11	FUSIBLE	0.12 10% 1/4W F
R264	1-249-432-11	CARBON	18K 5% 1/4W	R704	▲ 1-219-136-11	FUSIBLE	0.22 10% 1/4W F
R265	1-249-421-11	CARBON	2.2K 5% 1/4W	R705	1-249-422-11	CARBON	2.7K 5% 1/4W
R291	1-249-429-11	CARBON	10K 5% 1/4W	R706	1-249-421-11	CARBON	2.2K 5% 1/4W
R292	1-247-864-11	CARBON	24K 5% 1/4W	R707	1-249-421-11	CARBON	2.2K 5% 1/4W
R293	1-249-434-11	CARBON	27K 5% 1/4W	R708	1-249-430-11	CARBON	12K 5% 1/4W
R294	1-249-408-11	CARBON	180 5% 1/4W	R709	1-247-856-00	CARBON	11K 5% 1/4W
R501	1-249-441-11	CARBON	100K 5% 1/4W	R710	1-249-436-11	CARBON	39K 5% 1/4W
R502	1-249-417-11	CARBON	1K 5% 1/4W	R751	1-249-433-11	CARBON	22K 5% 1/4W
R503	1-215-455-00	METAL	27K 1% 1/6W	R752	1-249-421-11	CARBON	2.2K 5% 1/4W
R504	1-249-417-11	CARBON	1K 5% 1/4W	R753	1-249-421-11	CARBON	2.2K 5% 1/4W
R505	1-249-433-11	CARBON	22K 5% 1/4W	R754	1-249-421-11	CARBON	2.2K 5% 1/4W
R506	1-249-433-11	CARBON	22K 5% 1/4W	R755	1-249-421-11	CARBON	2.2K 5% 1/4W
R507	1-249-433-11	CARBON	22K 5% 1/4W	R756	1-249-417-11	CARBON	1K 5% 1/4W
R521	1-249-425-11	CARBON	4.7K 5% 1/4W	R757	1-249-417-11	CARBON	1K 5% 1/4W
R522	1-249-422-11	CARBON	2.7K 5% 1/4W	R758	1-249-417-11	CARBON	1K 5% 1/4W
R523	1-249-428-11	CARBON	8.2K 5% 1/4W	R759	1-249-415-11	CARBON	680 5% 1/4W
R524	1-249-441-11	CARBON	100K 5% 1/4W	R760	1-249-422-11	CARBON	2.7K 5% 1/4W
R526	1-247-846-11	CARBON	4.3K 5% 1/4W	R761	1-249-424-11	CARBON	3.9K 5% 1/4W
R527	1-249-421-11	CARBON	2.2K 5% 1/4W	R762	1-249-423-11	CARBON	3.3K 5% 1/4W
R528	1-249-429-11	CARBON	10K 5% 1/4W	R763	1-249-405-11	CARBON	100 5% 1/4W
R529	1-249-441-11	CARBON	100K 5% 1/4W	R801	1-249-405-11	CARBON	100 5% 1/4W
R530	1-249-441-11	CARBON	100K 5% 1/4W	R802	1-249-405-11	CARBON	100 5% 1/4W
R531	1-249-390-11	CARBON	5.6 5% 1/6W	R803	1-249-405-11	CARBON	100 5% 1/4W
R532	1-249-390-11	CARBON	5.6 5% 1/6W	R804	1-249-405-11	CARBON	100 5% 1/4W
R541	1-249-425-11	CARBON	4.7K 5% 1/4W	R805	1-249-405-11	CARBON	100 5% 1/4W
R542	1-249-422-11	CARBON	2.7K 5% 1/4W	R806	1-249-421-11	CARBON	2.2K 5% 1/4W
R543	1-249-428-11	CARBON	8.2K 5% 1/4W	R807	1-249-421-11	CARBON	2.2K 5% 1/4W
R544	1-249-441-11	CARBON	100K 5% 1/4W	R808	1-249-421-11	CARBON	2.2K 5% 1/4W
R546	1-249-422-11	CARBON	2.7K 5% 1/4W	R809	1-249-421-11	CARBON	2.2K 5% 1/4W
R547	1-249-421-11	CARBON	2.2K 5% 1/4W	R810	1-249-421-11	CARBON	2.2K 5% 1/4W
R548	1-249-429-11	CARBON	10K 5% 1/4W	R811	1-249-433-11	CARBON	22K 5% 1/4W
R549	1-249-441-11	CARBON	100K 5% 1/4W	R812	1-249-433-11	CARBON	22K 5% 1/4W
R550	1-249-441-11	CARBON	100K 5% 1/4W	R813	1-247-903-00	CARBON	1M 5% 1/4W
R551	1-249-390-11	CARBON	5.6 5% 1/6W	R814	1-249-425-11	CARBON	4.7K 5% 1/4W
R552	1-249-390-11	CARBON	5.6 5% 1/6W	R815	1-249-433-11	CARBON	22K 5% 1/4W
R561	1-249-409-11	CARBON	220 5% 1/4W	R816	1-249-433-11	CARBON	22K 5% 1/4W
R562	1-249-433-11	CARBON	22K 5% 1/4W	R817	1-249-424-11	CARBON	3.9K 5% 1/4W
R581	1-247-887-00	CARBON	220K 5% 1/4W	R818	1-249-433-11	CARBON	22K 5% 1/4W
R582	1-249-425-11	CARBON	4.7K 5% 1/4W	R819	1-249-433-11	CARBON	22K 5% 1/4W
R583	1-249-441-11	CARBON	100K 5% 1/4W	R820	1-249-429-11	CARBON	10K 5% 1/4W
R584	1-249-428-11	CARBON	8.2K 5% 1/4W	R821	1-249-441-11	CARBON	100K 5% 1/4W
R585	1-249-441-11	CARBON	100K 5% 1/4W	R822	1-249-417-11	CARBON	1K 5% 1/4W
R586	1-249-423-11	CARBON	3.3K 5% 1/4W	R823	1-249-437-11	CARBON	47K 5% 1/4W
R587	1-249-421-11	CARBON	2.2K 5% 1/4W	R826	1-249-429-11	CARBON	10K 5% 1/4W
R588	1-249-441-11	CARBON	100K 5% 1/4W	R831	1-249-429-11	CARBON	10K 5% 1/4W
R700	▲ 1-219-119-11	FUSIBLE	0.1 5% 1/4W F	R832	1-249-433-11	CARBON	22K 5% 1/4W
R701	1-249-433-11	CARBON	22K 5% 1/4W	R833	1-249-429-11	CARBON	10K 5% 1/4W
R702	1-249-421-11	CARBON	2.2K 5% 1/4W	R834	1-249-421-11	CARBON	2.2K 5% 1/4W

Note: The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

MAIN MD

Ref. No.	Part No.	Description		Remark	Ref. No.	Part No.	Description		Remark
R835	1-249-429-11	CARBON	10K	5% 1/4W	R891	1-249-417-11	CARBON	1K	5% 1/4W
R836	1-249-417-11	CARBON	1K	5% 1/4W	R892	△ 1-249-482-11	CARBON	4.7	5% 1/2W F
R837	1-249-412-11	CARBON	390	5% 1/4W	R893	1-249-433-11	CARBON	22K	5% 1/4W
R841	1-249-429-11	CARBON	10K	5% 1/4W					< VARIABLE RESISTOR >
R842	1-249-433-11	CARBON	22K	5% 1/4W	RV121	1-237-459-11	RES, ADJ. CARBON 10K		
R843	1-249-429-11	CARBON	10K	5% 1/4W	RV131	1-237-457-21	RES, ADJ. CARBON 2K		
R844	1-249-421-11	CARBON	2.2K	5% 1/4W	RV141	1-237-459-11	RES, ADJ. CARBON 10K		
R845	1-249-429-11	CARBON	10K	5% 1/4W	RV151	1-237-457-21	RES, ADJ. CARBON 2K		
R846	1-249-417-11	CARBON	1K	5% 1/4W	RV221	1-237-459-11	RES, ADJ. CARBON 10K		
R847	1-249-412-11	CARBON	390	5% 1/4W	RV231	1-237-457-21	RES, ADJ. CARBON 2K		
R851	1-247-903-00	CARBON	1M	5% 1/4W	RV241	1-237-459-11	RES, ADJ. CARBON 10K		
R852	1-249-425-11	CARBON	4.7K	5% 1/4W	RV251	1-237-457-21	RES, ADJ. CARBON 2K		
R853	1-249-425-11	CARBON	4.7K	5% 1/4W	RV831	1-237-461-11	RES, ADJ. CARBON 50K		
R854	1-249-425-11	CARBON	4.7K	5% 1/4W	RV841	1-237-461-11	RES, ADJ. CARBON 50K		
R855	1-249-425-11	CARBON	4.7K	5% 1/4W	RV871	1-237-459-11	RES, ADJ. CARBON 10K		
R856	1-249-425-11	CARBON	4.7K	5% 1/4W	RV872	1-237-458-21	RES, ADJ. CARBON 5K		
R857	1-249-425-11	CARBON	4.7K	5% 1/4W	RV881	1-237-459-11	RES, ADJ. CARBON 10K		
R858	1-249-425-11	CARBON	4.7K	5% 1/4W	RV882	1-237-458-21	RES, ADJ. CARBON 5K		
R861	1-249-436-11	CARBON	39K	5% 1/4W					< RELAY >
R862	1-249-436-11	CARBON	39K	5% 1/4W	RY531	1-515-683-11	RELAY		
R863	1-247-895-00	CARBON	470K	5% 1/4W	RY551	1-515-683-11	RELAY		
R864	1-247-895-00	CARBON	470K	5% 1/4W					< TRANSFORMER >
R865	1-249-436-11	CARBON	39K	5% 1/4W	T121	1-433-367-11	TRANSFORMER, BIAS OSCILLATION		
R866	1-249-436-11	CARBON	39K	5% 1/4W	T141	1-433-367-11	TRANSFORMER, BIAS OSCILLATION		
R867	1-247-895-00	CARBON	470K	5% 1/4W	T221	1-433-367-11	TRANSFORMER, BIAS OSCILLATION		
R868	1-247-895-00	CARBON	470K	5% 1/4W	T241	1-433-367-11	TRANSFORMER, BIAS OSCILLATION		
R869	1-249-429-11	CARBON	10K	5% 1/4W	T521	1-433-366-11	TRANSFORMER, BIAS OSCILLATION		
R871	1-249-433-11	CARBON	22K	5% 1/4W	T541	1-433-366-11	TRANSFORMER, BIAS OSCILLATION		
R872	1-249-434-11	CARBON	27K	5% 1/4W					< TEST PIN >
R873	1-249-411-11	CARBON	330	5% 1/4W	TP521	* 1-564-506-11	PLUG, CONNECTOR 3P		
R874	1-247-830-11	CARBON	910	5% 1/4W	TP541	* 1-564-506-11	PLUG, CONNECTOR 3P		
R875	1-249-418-11	CARBON	1.2K	5% 1/4W	TP581	* 1-564-505-11	PLUG, CONNECTOR 2P		
R876	1-249-417-11	CARBON	1K	5% 1/4W	TP801	* 1-564-505-11	PLUG, CONNECTOR 2P		
R877	△ 1-249-482-11	CARBON	4.7	5% 1/2W F	TP802	* 1-564-505-11	PLUG, CONNECTOR 2P		
R878	1-249-421-11	CARBON	2.2K	5% 1/4W	TP803	* 1-564-505-11	PLUG, CONNECTOR 2P		
R879	1-249-419-11	CARBON	1.5K	5% 1/4W					< CERAMIC >
R880	1-249-417-11	CARBON	1K	5% 1/4W	X801	1-577-358-21	VIBRATOR, CERAMIC 4MHz		
R881	△ 1-249-482-11	CARBON	4.7	5% 1/2W F	X802	1-577-358-21	VIBRATOR, CERAMIC 4MHz		
R882	1-249-433-11	CARBON	22K	5% 1/4W					*****
R883	1-249-434-11	CARBON	27K	5% 1/4W					* 1-632-740-11 MD BOARD
R884	1-249-411-11	CARBON	330	5% 1/4W					*****
R885	1-247-830-11	CARBON	910	5% 1/4W					
R886	1-249-418-11	CARBON	1.2K	5% 1/4W					3-356-631-01 HOLDER (SENSOR)
R887	1-249-417-11	CARBON	1K	5% 1/4W					
R888	△ 1-249-482-11	CARBON	4.7	5% 1/2W F					
R889	1-249-421-11	CARBON	2.2K	5% 1/4W					
R890	1-249-419-11	CARBON	1.5K	5% 1/4W					

Note: The components identified by mark △ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

MD	COVER	DISPLAY	HP	POWER SW	PT	REC EQ	SW (A)	SW (B)
----	-------	---------	----	----------	----	--------	--------	--------

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark									
< CONNECTOR >																		
CN1001	1-506-615-11	PIN, CONNECTOR 9P	C451	1-124-902-00	ELECT	0.47uF	20%	50V										
CN1002 *	1-564-502-11	PIN, CONNECTOR 10P	C453	1-124-927-11	ELECT	4.7uF	20%	100V										
< IC >																		
IC1001	8-749-920-97	IC PHOTO REFLECTOR GP2S22B	C454	1-124-927-11	ELECT	4.7uF	20%	100V										
IC1002	8-749-920-97	IC PHOTO REFLECTOR GP2S22B	C571	1-126-157-11	ELECT	10uF	20%	16V										
< RESISTOR >																		
R1001	1-249-408-11	CARBON	180	5%	1/4W	C572	1-126-157-11	ELECT	10uF	20%	16V							
R1002	1-249-408-11	CARBON	180	5%	1/4W	C573	1-161-494-00	CERAMIC	0.022uF	25V								
< SWITCH >																		
S1002	1-570-953-11	SWITCH, PUSH (1 KEY) (DOOR)	C601	1-124-903-11	ELECT	1uF	20%	50V										
S1003	1-571-958-11	SWITCH, PUSH (1 KEY) (CLOSE)	C651	1-124-903-11	ELECT	1uF	20%	50V										
S1004	1-572-126-11	SWITCH, PUSH (1 KEY) (OPEN)	C901	1-161-494-00	CERAMIC	0.022uF	25V											
S1005	1-572-125-11	SWITCH, LEAF (FWD TAB)	C902	1-164-159-11	CERAMIC	0.1uF	50V											
S1006	1-572-202-11	SWITCH, LEAF (HALF)	C903	1-124-443-00	ELECT	100uF	20%	10V										
S1007	1-572-125-11	SWITCH, LEAF (METAL)	C904	1-162-294-31	CERAMIC	0.001uF	10%	50V										
S1008	1-572-125-11	SWITCH, LEAF (70uS)	< CONNECTOR >															
S1009	1-572-125-11	SWITCH, LEAF (REV TAB)	CNJ601 *	1-563-660-11	CONNECTOR 9P													
< CONNECTOR >																		
TB1001 *	1-569-066-11	PIN, CONNECTOR 5P	CNJ602 *	1-563-660-11	CONNECTOR 9P													
*****																		
* A-2006-393-A PANEL BOARD, COMPLETE (INCL. COVER BOARD, DISPLAY BOARD, HP BOARD, POWER SW BOARD, PT BOARD, REC EQ BOARD, SW(A) BOARD, SW(B) BOARD)																		
*****																		
3-365-420-01 HOLDER, FL TUBE																		
9-911-844-XX CUSHION																		
< CAPACITOR >																		
C171	1-126-157-11	ELECT	10uF	20%	16V	< DIODE >												
C172	1-162-288-31	CERAMIC	330PF	10%	50V	D601	8-719-912-20	DIODE 1SS120										
C271	1-126-157-11	ELECT	10uF	20%	16V	D602	8-719-912-20	DIODE 1SS120										
C272	1-162-288-31	CERAMIC	330PF	10%	50V	D651	8-719-912-20	DIODE 1SS120										
C301	1-124-902-00	ELECT	0.47uF	20%	50V	D652	8-719-912-20	DIODE 1SS120										
C303	1-124-927-11	ELECT	4.7uF	20%	100V	< FLUORESCENT INDICATOR >												
C304	1-124-927-11	ELECT	4.7uF	20%	100V	FL901	1-519-594-11	INDICATOR TUBE, FLUORESCENT										
C351	1-124-902-00	ELECT	0.47uF	20%	50V	< IC >												
C353	1-124-927-11	ELECT	4.7uF	20%	100V	IC507	8-759-634-50	IC M5218AL										
C354	1-124-927-11	ELECT	4.7uF	20%	100V	IC601	8-752-038-02	IC CXA1198AP										
C401	1-124-902-00	ELECT	0.47uF	20%	50V	IC602	8-752-038-02	IC CXA1198AP										
C403	1-124-927-11	ELECT	4.7uF	20%	100V	IC603	8-759-208-06	IC TC4051BPHB										
C404	1-124-927-11	ELECT	4.7uF	20%	100V	IC901	8-759-323-40	IC HD614023SA85										
						IC902	8-741-100-48	IC SBX1610-59										
< JACK >																		
J501	1-507-796-71	JACK (PHONES)				< TRANSISTOR >												
< CAPACITOR >																		
Q301	8-729-620-05	TRANSISTOR 2SC2603-EF				Q351	8-729-620-05	TRANSISTOR 2SC2603-EF										
Q401	8-729-620-05	TRANSISTOR 2SC2603-EF				Q451	8-729-620-05	TRANSISTOR 2SC2603-EF										
Q601	8-729-900-65	TRANSISTOR DTA144ES				Q602	8-729-900-89	TRANSISTOR DTC144ES										
Q603	8-729-900-89	TRANSISTOR DTC144ES				Q604	8-729-620-05	TRANSISTOR 2SC2603-EF										
Q605	8-729-900-89	TRANSISTOR DTC144ES				Q605	8-729-900-89	TRANSISTOR DTC144ES										

<b>COVER</b>	<b>DISPLAY</b>	<b>HP</b>	<b>POWER SW</b>	<b>PT</b>	<b>REC EQ</b>	<b>SW (A)</b>	<b>SW (B)</b>
--------------	----------------	-----------	-----------------	-----------	---------------	---------------	---------------

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q651	8-729-900-65	TRANSISTOR DTA144ES		R632	1-247-870-11	CARBON	43K 5% 1/4W
Q652	8-729-620-05	TRANSISTOR 2SC2603-EF		R633	1-249-441-11	CARBON	100K 5% 1/4W
Q653	8-729-900-89	TRANSISTOR DTC144ES		R634	1-247-880-11	CARBON	110K 5% 1/4W
Q901	8-729-900-61	TRANSISTOR DTA114ES		R635	1-249-439-11	CARBON	68K 5% 1/4W
Q902	8-729-900-61	TRANSISTOR DTA114ES		R636	1-247-887-00	CARBON	220K 5% 1/4W
Q903	8-729-620-05	TRANSISTOR 2SC2603-EF		R641	1-247-874-11	CARBON	62K 5% 1/4W
	< RESISTOR >			R642	1-247-872-11	CARBON	51K 5% 1/4W
R171	1-249-432-11	CARBON	18K 5% 1/4W	R643	1-249-439-11	CARBON	68K 5% 1/4W
R172	1-249-421-11	CARBON	2.2K 5% 1/4W	R644	1-249-440-11	CARBON	82K 5% 1/4W
R173	1-249-432-11	CARBON	18K 5% 1/4W	R645	1-247-876-11	CARBON	75K 5% 1/4W
R174	1-249-409-11	CARBON	220 5% 1/4W	R646	1-247-887-00	CARBON	220K 5% 1/4W
R271	1-249-432-11	CARBON	18K 5% 1/4W	R651	1-249-417-11	CARBON	1K 5% 1/4W
R272	1-249-421-11	CARBON	2.2K 5% 1/4W	R652	1-249-441-11	CARBON	100K 5% 1/4W
R273	1-249-432-11	CARBON	18K 5% 1/4W	R653	1-247-864-11	CARBON	24K 5% 1/4W
R274	1-249-409-11	CARBON	220 5% 1/4W	R655	1-247-887-00	CARBON	220K 5% 1/4W
R301	1-249-429-11	CARBON	10K 5% 1/4W	R656	1-249-433-11	CARBON	22K 5% 1/4W
R302	1-249-425-11	CARBON	4.7K 5% 1/4W	R657	1-249-425-11	CARBON	4.7K 5% 1/4W
R304	1-249-425-11	CARBON	4.7K 5% 1/4W	R662	1-249-436-11	CARBON	39K 5% 1/4W
R305	1-249-425-11	CARBON	4.7K 5% 1/4W	R663	1-249-435-11	CARBON	33K 5% 1/4W
R306	1-249-425-11	CARBON	4.7K 5% 1/4W	R664	1-249-439-11	CARBON	68K 5% 1/4W
R351	1-249-429-11	CARBON	10K 5% 1/4W	R665	1-247-881-00	CARBON	120K 5% 1/4W
R352	1-249-425-11	CARBON	4.7K 5% 1/4W	R666	1-249-439-11	CARBON	68K 5% 1/4W
R354	1-249-425-11	CARBON	4.7K 5% 1/4W	R667	1-249-439-11	CARBON	68K 5% 1/4W
R355	1-249-425-11	CARBON	4.7K 5% 1/4W	R668	1-247-874-11	CARBON	62K 5% 1/4W
R356	1-249-425-11	CARBON	4.7K 5% 1/4W	R669	1-247-870-11	CARBON	43K 5% 1/4W
R401	1-249-429-11	CARBON	10K 5% 1/4W	R670	1-247-880-11	CARBON	110K 5% 1/4W
R402	1-249-425-11	CARBON	4.7K 5% 1/4W	R671	1-247-881-00	CARBON	120K 5% 1/4W
R404	1-249-425-11	CARBON	4.7K 5% 1/4W	R672	1-249-439-11	CARBON	68K 5% 1/4W
R405	1-249-425-11	CARBON	4.7K 5% 1/4W	R673	1-247-887-00	CARBON	220K 5% 1/4W
R406	1-249-425-11	CARBON	4.7K 5% 1/4W	R674	1-247-874-11	CARBON	62K 5% 1/4W
R451	1-249-429-11	CARBON	10K 5% 1/4W	R675	1-247-872-11	CARBON	51K 5% 1/4W
R452	1-249-425-11	CARBON	4.7K 5% 1/4W	R676	1-249-439-11	CARBON	68K 5% 1/4W
R454	1-249-425-11	CARBON	4.7K 5% 1/4W	R677	1-247-878-00	CARBON	91K 5% 1/4W
R455	1-249-425-11	CARBON	4.7K 5% 1/4W	R678	1-247-876-11	CARBON	75K 5% 1/4W
R456	1-249-425-11	CARBON	4.7K 5% 1/4W	R679	1-247-891-00	CARBON	330K 5% 1/4W
R545	1-249-424-11	CARBON	3.9K 5% 1/4W	R681	1-249-432-11	CARBON	18K 5% 1/4W
R601	1-249-417-11	CARBON	1K 5% 1/4W	R682	1-249-436-11	CARBON	39K 5% 1/4W
R602	1-249-441-11	CARBON	100K 5% 1/4W	R683	1-247-860-11	CARBON	16K 5% 1/4W
R603	1-247-864-11	CARBON	24K 5% 1/4W	R684	1-249-435-11	CARBON	33K 5% 1/4W
R604	1-249-433-11	CARBON	22K 5% 1/4W	R685	1-249-439-11	CARBON	68K 5% 1/4W
R621	1-249-436-11	CARBON	39K 5% 1/4W	R686	1-247-885-00	CARBON	180K 5% 1/4W
R622	1-249-435-11	CARBON	33K 5% 1/4W	R687	1-249-436-11	CARBON	39K 5% 1/4W
R623	1-247-874-11	CARBON	62K 5% 1/4W	R688	1-247-872-11	CARBON	51K 5% 1/4W
R624	1-247-880-11	CARBON	110K 5% 1/4W	R689	1-249-434-11	CARBON	27K 5% 1/4W
R625	1-249-439-11	CARBON	68K 5% 1/4W	R690	1-249-435-11	CARBON	33K 5% 1/4W
R626	1-249-439-11	CARBON	68K 5% 1/4W	R691	1-249-439-11	CARBON	68K 5% 1/4W
R631	1-247-874-11	CARBON	62K 5% 1/4W	R692	1-247-883-00	CARBON	150K 5% 1/4W
				R693	1-247-870-11	CARBON	43K 5% 1/4W
				R694	1-247-874-11	CARBON	62K 5% 1/4W

COVER	DISPLAY	HP	POWER SW	PT
REC EQ	SW (A)	SW (B)	REEL MOTOR	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
< SWITCH >							
R695	1-249-433-11	CARBON	22K 5% 1/4W	S901	1-554-118-00	SWITCH, PUSH (1 KEY) (POWER)	
R696	1-249-435-11	CARBON	33K 5% 1/4W	S951	1-554-303-21	SWITCH, TACTILE (BLANK SKIP)	
R697	1-249-439-11	CARBON	68K 5% 1/4W	S952	1-554-303-21	SWITCH, TACTILE (AUTO PAUSE)	
R698	1-247-883-00	CARBON	150K 5% 1/4W	S955	1-571-520-11	SWITCH, SLIDE (□NR)	
R902	1-249-433-11	CARBON	22K 5% 1/4W	S961	1-571-520-11	SWITCH, SLIDE (TIMER)	
R903	1-249-433-11	CARBON	22K 5% 1/4W				
R904	1-249-417-11	CARBON	1K 5% 1/4W	S971	1-554-303-21	SWITCH, TACTILE (A+B REC)	
R905	1-247-903-00	CARBON	1M 5% 1/4W	S972	1-554-303-21	SWITCH, TACTILE (SYNCHRO DUBBING HIGH SPEED)	
R906	1-249-441-11	CARBON	100K 5% 1/4W	S973	1-554-303-21	SWITCH, TACTILE (SYNCHRO DUBBING NORM SPEED)	
R907	1-249-441-11	CARBON	100K 5% 1/4W	S974	1-554-303-21	SWITCH, TACTILE (COUNTER RESET (DECK A))	
R908	1-249-441-11	CARBON	100K 5% 1/4W	S975	1-554-303-21	SWITCH, TACTILE (COUNTER MEMORY (DECK A))	
R951	1-249-407-11	CARBON	150 5% 1/4W	S976	1-554-303-21	SWITCH, TACTILE (COUNTER RESET (DECK B))	
R952	1-249-422-11	CARBON	2.7K 5% 1/4W	S977	1-554-303-21	SWITCH, TACTILE (COUNTER MEMORY (DECK B))	
R955	1-249-420-11	CARBON	1.8K 5% 1/4W	S978	1-571-520-11	SWITCH, SLIDE (DIR MODE)	
R961	1-249-407-11	CARBON	150 5% 1/4W				
R971	1-249-407-11	CARBON	150 5% 1/4W	S981	1-554-303-21	SWITCH, TACTILE (△OPEN/CLOSE (DECK A))	
R972	1-249-409-11	CARBON	220 5% 1/4W	S982	1-554-303-21	SWITCH, TACTILE (■(DECK A))	
R973	1-249-411-11	CARBON	330 5% 1/4W	S983	1-554-303-21	SWITCH, TACTILE (▷(DECK A))	
R974	1-249-413-11	CARBON	470 5% 1/4W	S984	1-554-303-21	SWITCH, TACTILE (◁(DECK A))	
R975	1-249-415-11	CARBON	680 5% 1/4W	S985	1-554-303-21	SWITCH, TACTILE (PAUSE ▲(DECK A))	
R976	1-249-417-11	CARBON	1K 5% 1/4W				
R977	1-249-420-11	CARBON	1.8K 5% 1/4W	S986	1-554-303-21	SWITCH, TACTILE (REC MUTE ○(DECK A))	
R978	1-249-424-11	CARBON	3.9K 5% 1/4W	S987	1-554-303-21	SWITCH, TACTILE (◀(DECK B))	
R981	1-249-407-11	CARBON	150 5% 1/4W	S988	1-554-303-21	SWITCH, TACTILE (▶(DECK B))	
R982	1-249-409-11	CARBON	220 5% 1/4W	S989	1-554-303-21	SWITCH, TACTILE (REC ●(DECK B))	
R983	1-249-411-11	CARBON	330 5% 1/4W	S991	1-554-303-21	SWITCH, TACTILE (△OPEN/CLOSE (DECK B))	
R984	1-249-413-11	CARBON	470 5% 1/4W	S992	1-554-303-21	SWITCH, TACTILE (■(DECK B))	
R985	1-249-415-11	CARBON	680 5% 1/4W	S993	1-554-303-21	SWITCH, TACTILE (▷(DECK B))	
R986	1-249-417-11	CARBON	1K 5% 1/4W	S994	1-554-303-21	SWITCH, TACTILE (◁(DECK B))	
R987	1-249-420-11	CARBON	1.8K 5% 1/4W	S995	1-554-303-21	SWITCH, TACTILE (PAUSE ▲(DECK B))	
R988	1-249-424-11	CARBON	3.9K 5% 1/4W	S996	1-554-303-21	SWITCH, TACTILE (REC MUTE ○(DECK B))	
R991	1-249-407-11	CARBON	150 5% 1/4W	S997	1-554-303-21	SWITCH, TACTILE (◀(DECK A))	
R992	1-249-409-11	CARBON	220 5% 1/4W	S998	1-554-303-21	SWITCH, TACTILE (▶(DECK A))	
R993	1-249-411-11	CARBON	330 5% 1/4W	S999	1-554-303-21	SWITCH, TACTILE (REC ●(DECK A))	
< CERAMIC >							
R996	1-249-417-11	CARBON	1K 5% 1/4W	X901	1-577-359-21	VIBRATOR, CERAMIC 4.19MHz	
R997	1-249-420-11	CARBON	1.8K 5% 1/4W				
R998	1-249-424-11	CARBON	3.9K 5% 1/4W				
*****							
* 1-632-741-11 REEL MOTOR BOARD							
*****							
RV301	1-238-547-11	RES. ADJ. CARBON	10K	M1051	X-3356-638-1	MOTOR (REEL R) ASSY	
RV351	1-238-547-11	RES. ADJ. CARBON	10K	M1052	X-3356-604-1	MOTOR (ASSIST) ASSY	
RV401	1-238-547-11	RES. ADJ. CARBON	10K				
RV451	1-238-547-11	RES. ADJ. CARBON	10K				
RV541	1-238-952-11	RES. VAR. CARBON	5K (BIAS (DECK B))				
RV561	1-241-133-11	RES. VAR. CARBON	50K/50K (REC LEVEL)				
RV562	1-238-953-11	RES. VAR. CARBON	50K/50K (BALANCE)				
RV571	1-238-085-11	RES. VAR. CARBON	20K/20K (PHONES LEVEL)				
< VARIABLE RESISTOR >							
*****							
< CAPACITOR >							
C1051	1-124-907-11	ELECT		10uF	20%	50V	
C1052	1-124-907-11	ELECT		10uF	20%	50V	
C1053	1-164-159-11	CERAMIC		0.1uF		50V	

## REEL MOTOR

## SENSOR

## TRANSLATION

Ref. No.	Part No.	Description	Remark
< CONNECTOR >			
CN1051	1-564-501-11	PIN, CONNECTOR 8P	
CN1052 *	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P	
CN1053 *	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P	
< RESISTOR >			
R1051	1-249-414-11	CARBON	560 5% 1/4W
*****			
* 1-634-323-11 TRANSLATION BOARD			
*****			
< CONNECTOR >			
CN1091 *	1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P	
CN1092 *	1-564-509-11	PLUG, CONNECTOR 6P	
CN1093 *	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P	
CN1094 *	1-564-506-11	PLUG, CONNECTOR 3P	
*****			
1-638-161-11 SENSOR BOARD			
*****			
< DIODE >			
D1091	8-719-950-74	DIODE SLR-314D-B	
< TRANSISTOR >			
Q1091	8-729-809-43	PHOTO SENSOR SPS-314B-BE	
*****			
MISCELLANEOUS			
*****			
9	▲ 1-555-465-00	CORD, POWER (US)	
10	▲ 1-555-795-00	CORD, POWER, EULO PLUG (AEP, Germany)	
11	▲ 1-556-035-00	CORD, POWER (UK)	
D1001	8-719-980-85	DIODE SLF-325C	
M1001	X-3356-605-1	MOTOR (CAPSTAN R) ASSY	
S1001	1-466-525-11	ENCODER, ROTARY	
T901	▲ 1-450-444-11	TRANSFORMER, POWER (WR875)	
T901	▲ 1-450-446-11	TRANSFORMER, POWER (WR770)	
*****			

Ref. No.	Part No.	Description	Remark
ACCESSORY & PACKING MATERIAL			
*****			
	1-559-533-11	CORD, CONNECTION	
	* 3-354-913-01	CUSHION	
	* 3-366-699-21	INDIVIDUAL CARTON (WR770)	
	* 3-366-699-31	INDIVIDUAL CARTON (WR875)	
	3-703-450-01	INSTRUCTION (WR875)	
3-753-345-11 MANUAL, INSTRUCTION (ENGLISH, FRENCE, SPANISH, PORTUGUESE) (AEP, UK)			
3-753-345-21 MANUAL, INSTRUCTION (ENGLISH) (WR875)			
3-753-345-41 MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN) (AEP, Germany)			
*****			
<b>HARDWARE LIST</b>			
# 1	7-682-547-09	SCREW +BVTT 3X6 (S)	
# 2	7-682-548-09	SCREW +BVTT 3X8 (S)	
# 3	7-682-547-04	SCREW +BVTT 3X6 (S)	
# 4	7-682-548-04	SCREW +BVTT 3X8 (S)	
# 5	7-621-849-00	SCREW (BV/RING)	
# 6	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
# 7	7-685-870-01	SCREW +BVTT 3X5 (S)	
# 8	7-621-255-20	SCREW +BVTT 2X4 (S)	
# 9	7-621-283-00	SCREW +BVTT 2X5 (S)	
#10	7-621-255-35	SCREW +BVTT 2X5 (S)	
#11	7-621-770-67	SCREW +BVTT 2.6X6 (S)	
#12	7-685-131-19	SCREW +BTP 2.6X4 TYPE2 N-S	

Note: The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.